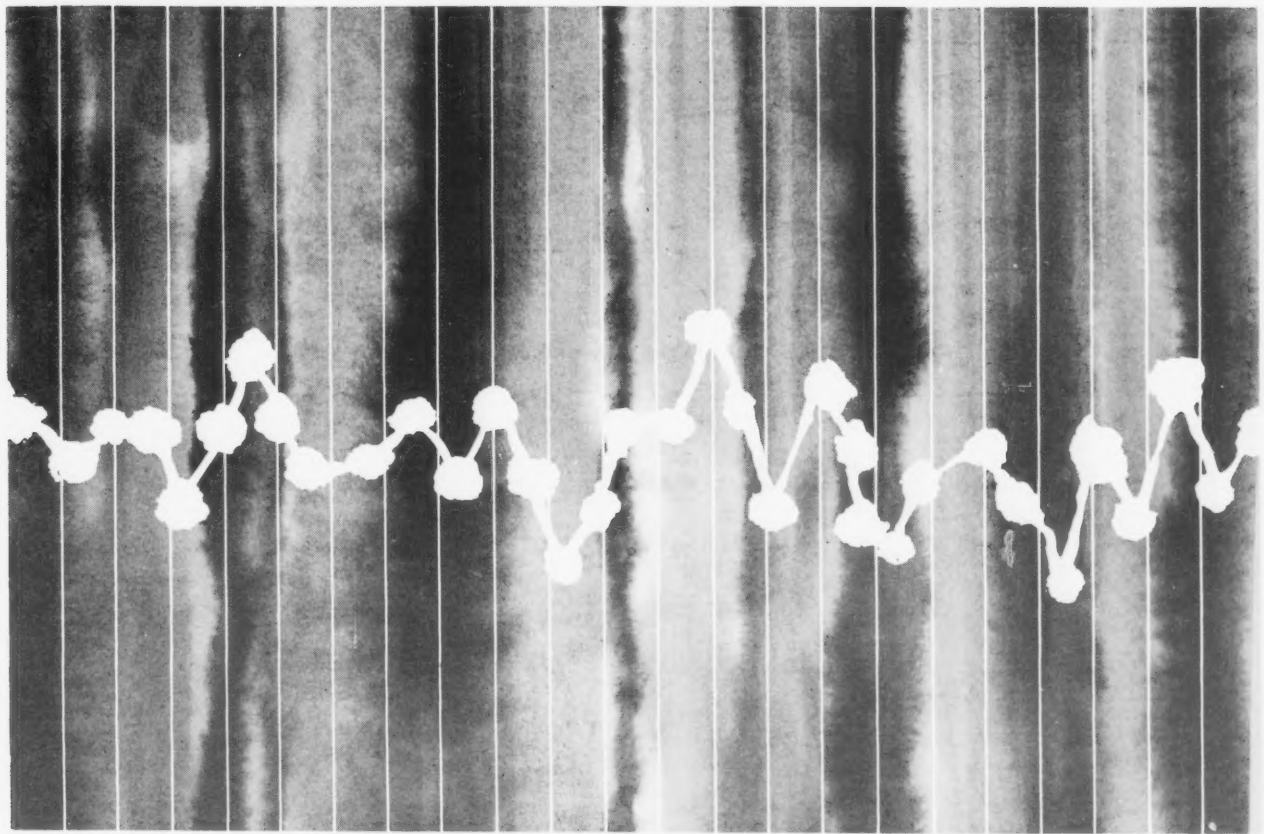


defense indicators

MAY 1978



U.S. DEPARTMENT OF COMMERCE • BUREAU OF ECONOMIC ANALYSIS



U.S. DEPARTMENT OF COMMERCE

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This publication is prepared under the general guidance of an interagency committee under the auspices of the Office of Federal Statistical Policy and Standards. This committee consists of the following persons:

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defense indicators

May 1978

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DISCONTINUATION OF *DEFENSE INDICATORS*

Publication of *DEFENSE INDICATORS* will cease with the June 1978 issue as a result of a review under the President's Zero Base Budgeting procedure.

Statistical coverage of defense-related activities will be expanded in *BUSINESS CONDITIONS DIGEST*. The Superintendent of Documents will substitute *BUSINESS CONDITIONS DIGEST* for the unused portion of the *DEFENSE INDICATORS* subscription on a prorated basis. Those who already subscribe to *BCD* will have their subscriptions to *BCD* extended proportionately.

Annual subscription price of *BUSINESS CONDITIONS DIGEST* is \$40 domestic, \$50 foreign. Single copy price: \$3.50 domestic, \$4.50 foreign. Available from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

Introduction

The purpose of this monthly report is to bring together the principal time series on defense activity which influence short-term changes in the national economy. These include series on obligations, contracts, orders, shipments, inventories, expenditures, employment, and earnings. Most are monthly but a few quarterly series are included. The series numbers used are for identification purposes only and do not reflect relationships or order.

Classification of Series

Chart 1 compares Government purchases of goods and services for national defense with total gross national product. GNP is the market value of the final output of goods and services produced by the Nation's economy and represents a very broad measure of aggregate economic activity. In addition to national defense purchases, it includes Federal Government purchases of goods and services for nondefense purposes, State and local government purchases, personal consumption expenditures, gross private domestic investment, and net exports of goods and services. Chart 1 also presents national defense purchases as a percent of gross national product and, for both series, changes from the previous quarter.

A related group of series is shown in Chart 4, "Defense Related Balance of Payments Components." These series show the effects of defense-related economic activity on the balance of payments accounts.

The remaining series are grouped in accordance with the time at which the activities they measure occur within the defense order-production-delivery process. Those series measuring activities that usually precede production, such as new orders placed with defense products industries and contract awards, are presented in Chart 2, "Advance Indicators of Defense Activity." Chart 3, "Intermediate and Final Indicators of Defense Activity," presents series that measure activities which tend to move at the same time as production (such as employment) and activities which usually follow production (such as shipments).

Series Included

Following is a list of the series as they appear in charts 1, 2, 3, and 4 (the source agencies are abbreviated in parentheses; detailed lists of sources for charts 1, 2, and 3 appeared as appendixes to the August and October 1968 issues of this report).

Gross National Product and National Defense Purchases

- Gross national product (BEA)
- Federal Government purchases of goods and services, national defense (BEA)
- National defense purchases as a percent of gross national product (BEA)
- Gross national product, changes from previous quarter (BEA)
- National defense purchases, changes from previous quarter (BEA)

Advance Indicators of Defense Activity

- Defense Department gross obligations incurred, total (DOD)
- Defense Department gross obligations incurred, procurement (DOD)
- Gross obligations incurred outside the Government for national defense (Treasury)

- Defense Department military prime contract awards for work performed in the United States (DOD)
- Defense Department gross unpaid obligations outstanding (DOD)
- Manufacturers' new orders (Census):
 - Defense products industries
 - Defense products
- Manufacturers' new orders from the U.S. Government, aerospace industries (Census):
- Average weekly overtime hours, production workers, defense products industries (BLS)
- Accession rate, defense products industries (BLS)
- Layoff rate, defense products industries (BLS)

Intermediate and Final Indicators of Defense Activity

- Output of defense and space equipment (FRB)
- Manufacturers' inventories (Census):
 - Defense products industries
 - Defense products
- Manufacturers' unfilled orders (Census):
 - Defense products industries
 - Defense products
- Manufacturers' unfilled orders from the U.S. Government, aerospace industries (Census)
- Defense Department progress payments outstanding (DOD)
- Employment in defense products industries, total (BLS)
- Employment in defense products industries, production workers (BLS)
- Index of aggregate weekly hours, defense products industries (BLS)
- Index of aggregate weekly payrolls, production workers, defense products industries (BLS)
- Defense Department personnel, military, active duty (DOD)
- Defense Department personnel, civilian, direct hire employment (DOD)
- Defense Department net outlays, total, military functions and military assistance (DOD)
- Defense Department net outlays, procurement (DOD)
- Budget outlays for the national defense function (Treasury)
- Defense Department personnel compensation (DOD)
- Manufacturers' shipments (Census):
 - Defense products industries
 - Defense products
- Manufacturers' shipments to the U.S. Government, aerospace industries (Census)
- Ratio, manufacturers' unfilled orders to shipments (Census):
 - Defense products industries
 - Defense products
- Ratio, manufacturers' inventories to shipments (Census):
 - Defense products industries
 - Defense products

Defense-Related Balance of Payments Components

- Transfers under U.S. military agency sales contracts—exports (BEA)
- Direct defense expenditures—imports (BEA)
- U.S. Government cash receipts associated with military sales contracts (BEA)

Some additional data are included in the tables though not presented in the charts. These include Defense Department military prime contract awards by procurement category (e.g., for aircraft, missiles and space systems, ships, weapons, and ammunition), the operations component of Defense Department

gross obligations incurred, gross unpaid obligations outstanding, and net outlays and the procurement component of gross unpaid obligations outstanding.

Description of Basic Data

The Department of Defense compiles statistics on obligations, contract awards, personnel compensation, and outlays. The DOD obligations and outlays data are based on the Defense Department's monthly *Status of Funds* report which is developed from accounting data and is designed to provide information on the total status of Defense Department financing. Accounts included in this report are aggregated by appropriation categories including personnel costs, operations and maintenance, procurement, research and development, and construction. The *Status of Funds* report duplicates some obligations. That is, obligations of one government unit to another unit are not netted out.

The Defense Department's *Contract Awards* report covers the awarding of procurement contracts. These include obligations for operating and maintenance supplies, equipment and services, research and development, and construction in addition to the obligations for items that constitute the fiscal "procurement" category. The statistics are aggregated by commodity categories including aircraft, missile and space systems, ships, weapons, ammunition, electronics and communication equipment, fuels, and textiles and clothing. The *Contract Awards* report includes procurement for NASA, other nondefense agencies, and the Foreign Military Sales Program which are not included in the *Status of Funds* report.

The Census quarterly new orders, unfilled orders and shipments series for "aerospace industries" are based on reports of companies classified into the following industry categories:

| Industry | SIC Code |
|---|----------|
| Aircraft and parts | 372 |
| Guided missiles and space vehicles, completely assembled .. | 1925 |

The Census and BLS data for "defense products industries" presented in this report cover companies and establishments¹ classified into the following industry categories in accordance with the *Standard Industrial Classification Manual*, 1967 edition, Executive Office of the President, Bureau of the Budget:

| Industry | SIC Code |
|--------------------------------|----------|
| Ordnance and accessories | 19 |
| Communication equipment | 366 |
| Aircraft and parts | 372 |

Establishments reporting to the BLS are classified into industries on the basis of their principal product or activity as determined from information on annual sales volume, which is collected each year on a supplement to the monthly report. The entire employment of an establishment making more than one product or engaging in more than one activity is included under the industry accounting for the largest percentage of the annual sales of that establishment.

The Census Bureau's monthly survey is based primarily on reports at the company level and the monthly estimates are benchmarked to the establishment data from the *Annual Survey*

of Manufactures. Also, many of the large diversified companies file separate divisional reports monthly. Although the reports in the survey are also classified according to their principal product or activity, this difference in the organizational level from which reports are received results in firms being classified into different industries in the BLS and Census surveys and, consequently, limits somewhat the comparability of the data collected by these agencies. However, as we know from past studies in this area, some differences in industrial classification between BLS and Census data would remain even if reports came from the same organizational levels.

Both the Census and the BLS data include a significant amount of nondefense activities carried on by companies and establishments classified in the above industries. For example, the data cover the production of commercial as well as military aircraft. On the other hand, they exclude significant amounts of defense work carried on by companies and establishments classified in industries other than those listed above (e.g., the manufacture of military uniforms and the shipbuilding industry).²

Census data for "defense products" are based on separate reports on defense work filed by large defense contractors in the ordnance, communications, complete aircraft, aircraft parts, and shipbuilding industries. Thus, they differ from the "defense products industries" data in that they include defense activity in the shipbuilding industry and exclude nondefense work in the other industries covered. Defense products data cover work for the Department of Defense and exclude contracts for the National Aeronautics and Space Administration and the Atomic Energy Commission.

The DOD data are not strictly comparable in coverage with either the BLS or the Census data since the Defense Department figures (1) cover products of industries not included in the defense products category; (2) generally do not include nondefense activities (except that some series, such as contract awards, include activities by the Department of Defense on behalf of nondefense agencies); and (3) do not cover intermediate activities such as those related to subcontracting and supplying of parts. Thus, the Census Bureau data for manufacturers' new orders and shipments of defense products industries, for example, differ in coverage from the DOD contract awards and net outlays series.

The Department of Defense data are not comparable with Federal Government purchases of goods and services for national defense or the Treasury Department obligations and outlays data since the BEA and Treasury data cover defense-related activities of other agencies such as the Atomic Energy Commission, the Selective Service System, and the Office of Emergency Planning.

Projects to improve the comparability of the data collected by the Bureau of the Census, the Bureau of Labor Statistics, and the Department of Defense and to improve the separation of defense and nondefense activity for the Census and BLS data are being undertaken by the statistical agencies under the leadership of the Interagency Committee mentioned earlier in this report.

¹ An establishment is a single physical location where business is conducted (e.g., a plant). A company often includes more than one establishment.

² See the Bureau of the Census publication *Shipments of Defense-Oriented Industries*, Current Industrial Reports, Series MA-175, for annual estimates of shipments by industry to the Department of Defense, the National Aeronautics and Space Administration, and the Atomic Energy Commission. Included also are industries not covered by the "defense products industries" category.

Variability of Data

Seasonal variations dominate the movements of many time series, and adjustments for average seasonal fluctuations are often necessary to bring out the underlying trends of the series. These seasonal adjustments allow for the effects of repetitive intrayear variations resulting primarily from normal differences in weather conditions and from various institutional arrangements. An additional adjustment is sometimes necessary for series which contain considerable variation resulting from the number of working or trading days in each month. As used in this report, the term "seasonal adjustment" includes trading-day adjustments where they have been made.

Most of the series in this report are shown in seasonally adjusted form. For Defense Department and BLS series, unadjusted data are also shown since they are not readily available elsewhere. Current seasonal adjustment factors are shown in appendix A.

The effect of seasonal adjustment in reducing the month-to-month variation in the data can be seen in appendix B. There, the first two columns show the average month-to-month percent change (without regard to sign) in the data before and after seasonal adjustment. Some series still show very irregular month-to-month movements after adjustment for seasonal variation. The measures in appendix B also indicate the month-to-month variation in the irregular and short-term trend components of the series. For many series, irregular movements tend to dominate 1- or 2-month comparisons, and the underlying short-term trend becomes dominant in comparisons over longer spans. The "months for cyclical dominance" (MCD) measure estimates the span of months required for the short-term trend to dominate the irregular component. Series with an MCD of 4 or more are supplemented with a moving average (with the

number of terms equal to MCD) in the charts. Data for these moving averages are listed in the basic data tables.

Guide to Charts and Tables

Most series are plotted on a standard ratio scale so that equal percent changes cover the same vertical distance. For these series, an increase of 100 percent covers approximately 1 inch. Arithmetic scales are used for series with zero or negative data, series which could approach zero (e.g., average overtime hours and layoff rate), and series expressed in percent.

In general, monthly data are plotted with a solid line and quarterly data are represented by a solid line with quarterly plot points. Quarterly series are also identified with a "Q" after their titles. For series which include a moving average, a dashed line is used for the actual monthly data and a solid line for the moving average. (The moving average values are centered within the span of months they are computed from.) Exceptions to this scheme may be necessary for special situations. Data apply to the whole period except for series designated "EOM" (end of month) or "EOQ" (end of quarter). The number in the box at the right of each series indicates the latest month (Arabic) or quarter (Roman) plotted. Parallel lines across a series indicate a break in continuity (e.g., data not available or change in series definition).

Tables 1, 2, 3, and 4 present current data for the series shown in the charts, including the moving averages. They also include unadjusted data for some series and data for related series which are not plotted. Table A summarizes the most recent data and percent changes for many of the series in the report. Historical data are shown on an intermittent basis in appendix C. (The index indicates the appropriate issue for each series.)

New Features and Changes for This Issue

1. Publication of *DEFENSE INDICATORS* will cease with the June 1978 issue. See the announcement on page ii for further details.

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The June issue of *DEFENSE INDICATORS* is scheduled for release on June 29.

Table A. Summary of Recent Data and Current Percent Changes for Principal Defense Indicators

(Preliminary and revised figures are not identified here but the user may consult tables 1, 2, 3, and 4 where such identification is given)

| Series title | Unit of measure | Basic data | | | | | | | | Percent change | | | | Series number |
|--|--------------------------------|------------|--------|-----------|------------|------------|-----------|-----------|-----------|-------------------|-------------------|--------------------|---------------------|---------------|
| | | Average | | 3d Q 1977 | 4th Q 1977 | 1st Q 1978 | Feb. 1978 | Mar. 1978 | Apr. 1978 | Feb. to Mar. 1978 | Mar. to Apr. 1978 | 3d Q to 4th Q 1977 | 4th Q to 1st Q 1978 | |
| | | 1976 | 1977 | | | | | | | | | | | |
| GROSS NATIONAL PRODUCT AND NATIONAL DEFENSE PURCHASES | | | | | | | | | | | | | | |
| 200. Gross national product (BEA) | Ann. rate, bil. dol. | 1706.5 | 1889.6 | 1915.9 | 1961.8 | 1993.4 | ... | ... | ... | ... | ... | 2.4 | 1.6 | 200 |
| 264. Federal Government purchases of goods and services, national defense (BEA) | do | 86.8 | 94.3 | 95.6 | 98.5 | 99.5 | ... | ... | ... | ... | ... | 3.0 | 1.0 | 264 |
| 613. National defense purchases as a percent of GNP (BEA) ¹ | Percent | 5.1 | 5.0 | 5.0 | 5.0 | 5.0 | ... | ... | ... | ... | ... | 0.0 | 0.0 | 613 |
| ADVANCE INDICATORS OF DEFENSE ACTIVITY | | | | | | | | | | | | | | |
| Defense Dept. gross obligations incurred (DOD): 617. Total | Ann. rate, bil. dol. | 109.9 | 118.5 | 116.5 | 122.2 | 126.6 | 124.9 | 123.3 | NA | -1.3 | NA | 4.9 | 3.6 | 617 |
| 621. Procurement | do | 24.6 | 28.0 | 28.6 | 30.7 | 32.2 | 35.3 | 30.4 | NA | -13.9 | NA | 7.3 | 4.9 | 621 |
| 623. Gross obligations incurred outside the Federal Government for national defense (Treasury) | do | 115.3 | 123.7 | 112.9 | 129.1 | NA | NA | NA | NA | NA | NA | 14.3 | NA | 623 |
| 625. Defense Department military prime contract awards for work performed in the U.S. (DOD) | do | 50.1 | 54.9 | 54.0 | 62.3 | NA | 47.8 | NA | NA | NA | NA | 15.4 | NA | 625 |
| 643. Defense Department gross unpaid obligations outstanding (DOD) | Bil. dol., end of period | 48.5 | 55.8 | 52.7 | 55.8 | 59.0 | 58.4 | 59.0 | NA | 1.0 | NA | 5.9 | 5.7 | 643 |
| 648. Mfrs.' new orders, defense products (Census) | Ann. rate, bil. dol. | 29.7 | 34.4 | 26.7 | 49.1 | 40.0 | 31.9 | 53.8 | 47.7 | 68.7 | -11.3 | 83.9 | -18.5 | 648 |
| 650. Manufacturers' new orders from the U.S. Government, aerospace industries (Census) | do | 21.3 | 22.1 | 13.1 | 31.4 | NA | ... | ... | ... | ... | ... | 139.7 | NA | 650 |
| 653. Average weekly overtime hours, production workers, defense products industries (BLS) ¹ | Hours | 2.5 | 3.0 | 2.9 | 3.3 | 3.5 | 3.7 | 3.5 | NA | -0.2 | NA | 0.4 | 0.2 | 653 |
| 654. Accessions, defense products industries (BLS) ¹ | Number per 100 employees | 1.6 | 2.1 | 1.9 | 2.0 | NA | 2.1 | NA | NA | NA | NA | 0.1 | NA | 654 |
| 655. Layoffs, defense products industries (BLS) ¹ | do | 0.7 | 0.5 | 0.6 | 0.5 | NA | 0.2 | NA | NA | NA | NA | -0.1 | NA | 655 |
| INTERMEDIATE AND FINAL INDICATORS OF DEFENSE ACTIVITY | | | | | | | | | | | | | | |
| 657. Output of defense and space equipment (FRB) | 1967=100 | 78.4 | 79.6 | 80.7 | 79.2 | 79.8 | 79.1 | 80.6 | 81.2 | 1.9 | 0.7 | -1.9 | 0.8 | 657 |
| 659. Mfrs.' inventories, defense products (Census) | Bil. dol., end of period | 6.4 | 6.4 | 6.3 | 6.4 | 6.6 | 6.6 | 6.6 | NA | 0.0 | NA | 1.6 | 3.1 | 659 |
| 661. Mfrs.' unfilled orders, defense products (Census) | do | 32.1 | 35.0 | 30.7 | 35.0 | 36.7 | 35.1 | 36.7 | 37.7 | 4.6 | 2.7 | 14.0 | 4.9 | 661 |
| 664. Manufacturers' unfilled orders from the U.S. Government, aerospace industries (Census) | do | 21.9 | 25.1 | 22.2 | 25.1 | NA | ... | ... | ... | ... | ... | 13.1 | NA | 664 |
| 666. Defense Department progress payments outstanding (DOD) ¹ | do | 8.5 | 8.3 | 7.8 | 8.3 | NA | ... | ... | ... | ... | ... | 6.4 | NA | 666 |
| Employment in defense products industries (BLS): 670. Total | Thousands | 1,064 | 1,073 | 1,087 | 1,060 | 1,108 | 1,105 | 1,118 | 1,123 | 1.2 | 0.4 | -2.5 | 4.5 | 670 |
| 671. Production workers | do | 531 | 533 | 545 | 519 | 562 | 568 | 566 | 567 | -0.4 | 0.2 | -4.8 | 8.3 | 671 |
| 673. Index of aggregate weekly hours, defense products industries (BLS) | 1967=100 | 62.8 | 63.9 | 64.8 | 63.1 | 65.4 | 64.6 | 66.3 | 66.9 | 2.6 | 0.9 | -2.6 | 3.6 | 673 |
| 675. Index of aggregate weekly payrolls, production workers, defense products industries (BLS) | do | 101.2 | 111.4 | 115.4 | 110.7 | 121.3 | 120.3 | 124.1 | 127.3 | 3.2 | 2.6 | -4.1 | 9.6 | 675 |
| Defense Department personnel (DOD): ¹ 677. Military, active duty | Thousands, end of period | 2,072 | 2,060 | 2,075 | 2,060 | 2,058 | 2,062 | 2,058 | 2,054 | -0.2 | -0.2 | -0.7 | -0.1 | 677 |
| 678. Civilian, direct hire employment | do | 995 | 983 | 982 | 983 | NA | 982 | NA | NA | NA | NA | 0.1 | NA | 678 |
| Defense Department net outlays (DOD): 680. Total, military functions and military assistance | Ann. rate, bil. dol. | 88.3 | 97.9 | 96.8 | 104.0 | 98.8 | 96.7 | 101.0 | 112.1 | 4.4 | 11.0 | 7.4 | -5.0 | 680 |
| 682. Procurement | do | 16.4 | 18.6 | 18.7 | 19.6 | 18.6 | 16.9 | 20.1 | 19.6 | 18.9 | -2.5 | 4.8 | -5.1 | 682 |
| 683. Budget outlays for the national defense function (Treasury) | do | 89.7 | 99.9 | 98.6 | 105.9 | 107.3 | 102.6 | 119.3 | 108.9 | 16.3 | -8.7 | 7.4 | 1.3 | 683 |
| 685. Defense Dept. personnel compensation (DOD) | do | 35.5 | 37.2 | 37.3 | 38.4 | NA | 38.9 | NA | NA | NA | NA | 2.9 | NA | 685 |
| 688. Mfrs.' shipments, defense products (Census) | do | 26.6 | 31.5 | 31.4 | 31.9 | 33.3 | 33.2 | 34.6 | 36.0 | 4.2 | 4.0 | 1.6 | 4.4 | 688 |
| 689. Manufacturers' shipments to the U.S. Government, aerospace industries (Census) | do | 19.1 | 20.3 | 20.0 | 20.4 | NA | ... | ... | ... | ... | ... | 2.0 | NA | 689 |
| 691. Ratio, manufacturers' unfilled orders to shipments, defense products (Census) | Ratio | 13.4 | 12.1 | 11.9 | 12.6 | 12.8 | 12.7 | 12.7 | 12.5 | 0.0 | -1.6 | 5.9 | 1.6 | 691 |
| 693. Ratio, manufacturers' inventories to shipments, defense products (Census) | do | 2.9 | 2.4 | 2.4 | 2.4 | 2.4 | 2.4 | 2.3 | NA | -4.2 | NA | 0.0 | 0.0 | 693 |
| DEFENSE-RELATED BALANCE OF PAYMENTS COMPONENTS | | | | | | | | | | | | | | |
| 546. Transfers under U.S. military agency sales contracts—exports (BEA) ¹ | Ann. rate, mil. dol. | 5,213 | 7,079 | 8,020 | 6,076 | NA | ... | ... | ... | ... | ... | -1,944 | NA | 546 |
| 547. Direct defense expenditures—imports (BEA) ¹ Ⓜ | do | 4,847 | 5,647 | 5,784 | 5,876 | NA | ... | ... | ... | ... | ... | 92 | NA | 547 |
| 696. U.S. Government cash receipts associated with military sales contracts (BEA) ¹ Ⓜ | do | 8,213 | 7,636 | 7,820 | 7,224 | NA | ... | ... | ... | ... | ... | -596 | NA | 696 |

NOTE: This table is presented as a convenient summary of the current data for many of the indicators in this report. In many cases, data shown here are rounded to fewer digits or are in different units than those shown in tables 1, 2, 3, and 4. Where available, annual figures are those published by the source agencies; otherwise they (and the quarterly figures for monthly series) are averages or totals of the data as shown in the data tables. Series are seasonally adjusted except for those indicated by ¹, which appear to contain no seasonal movement.

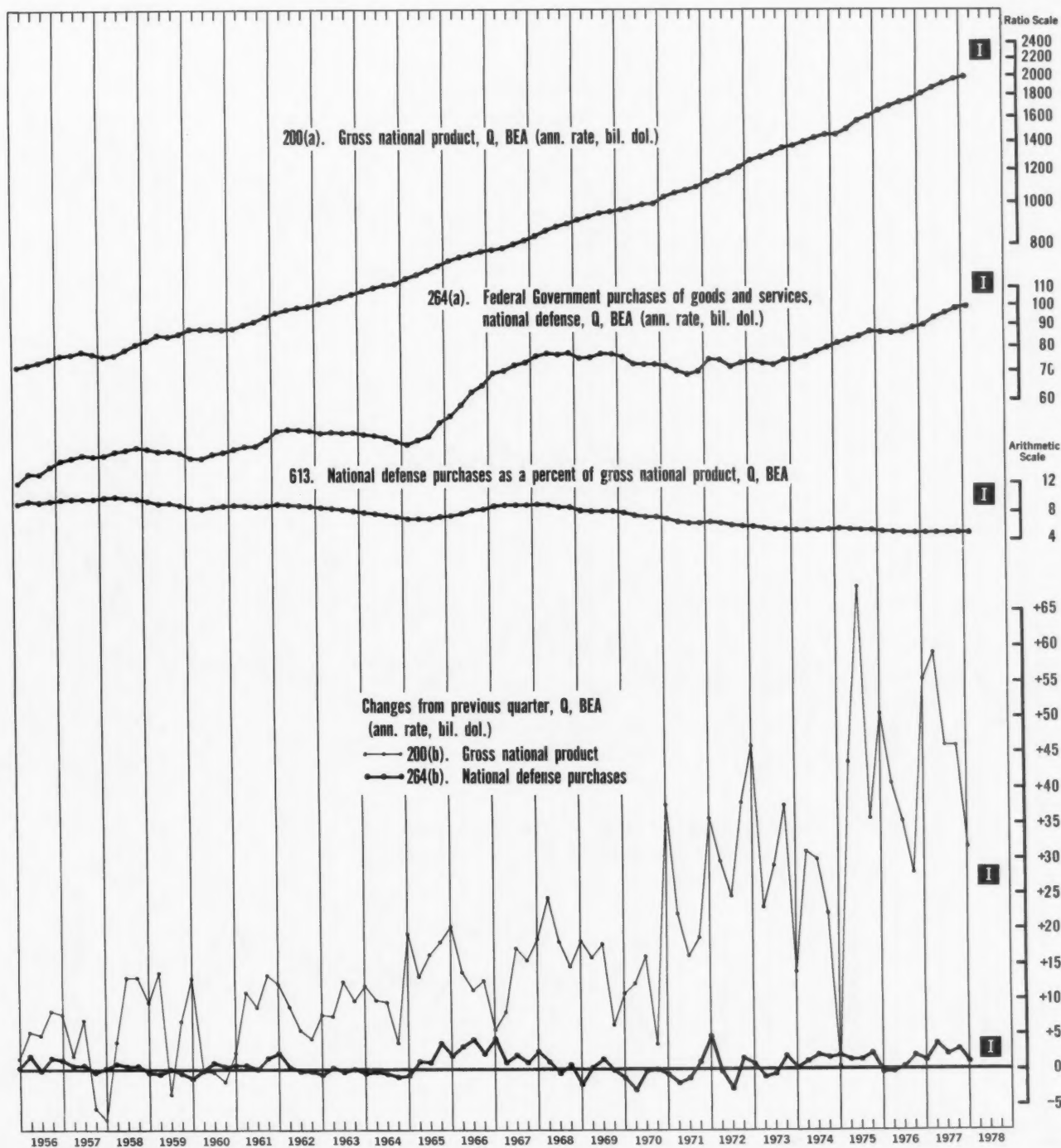
NA = not available.

¹Differences rather than percent changes are shown for this series.

CHART

1

Gross National Product and National Defense Purchases

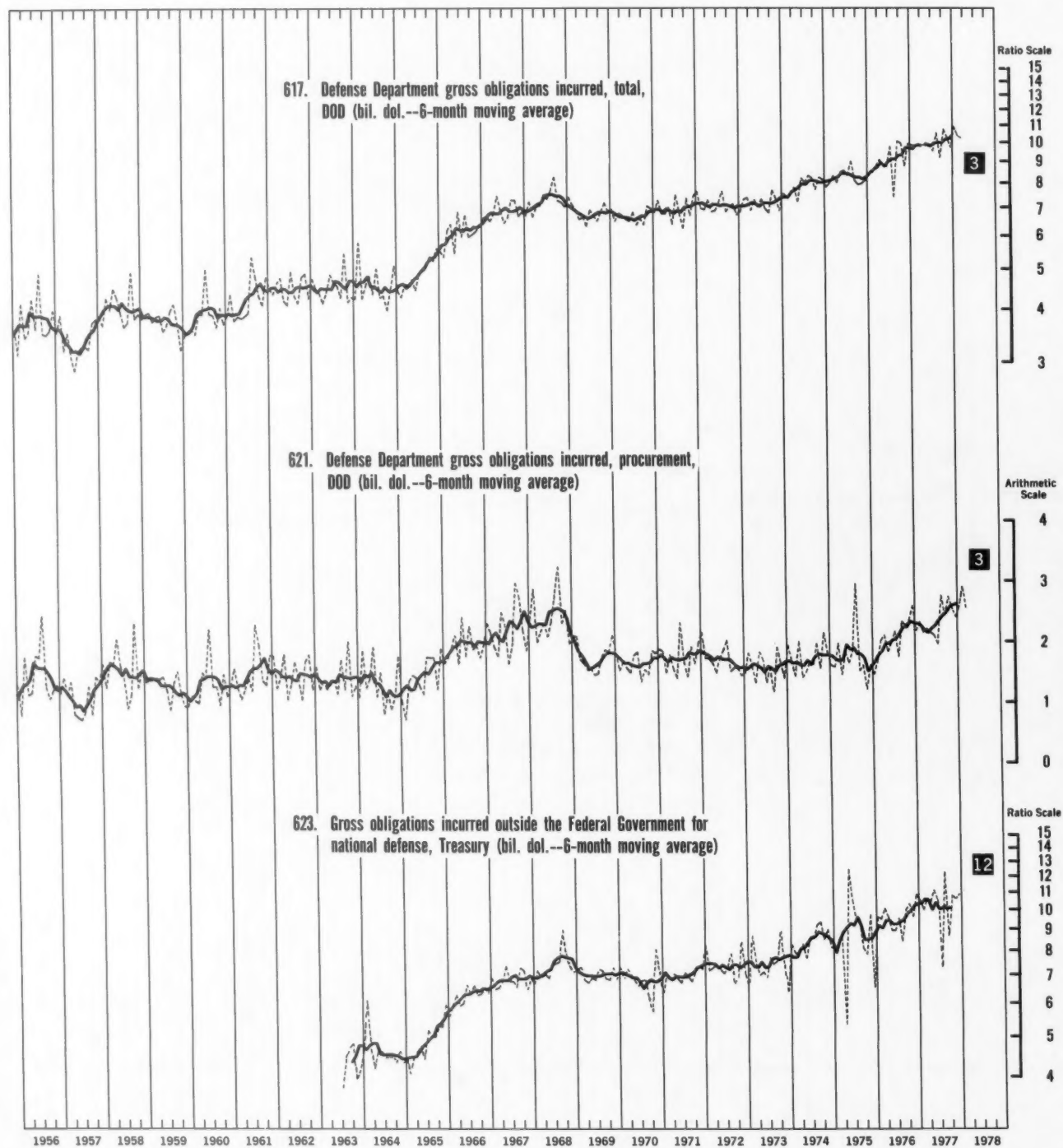


Current data for these series are shown on page 14.

CHART

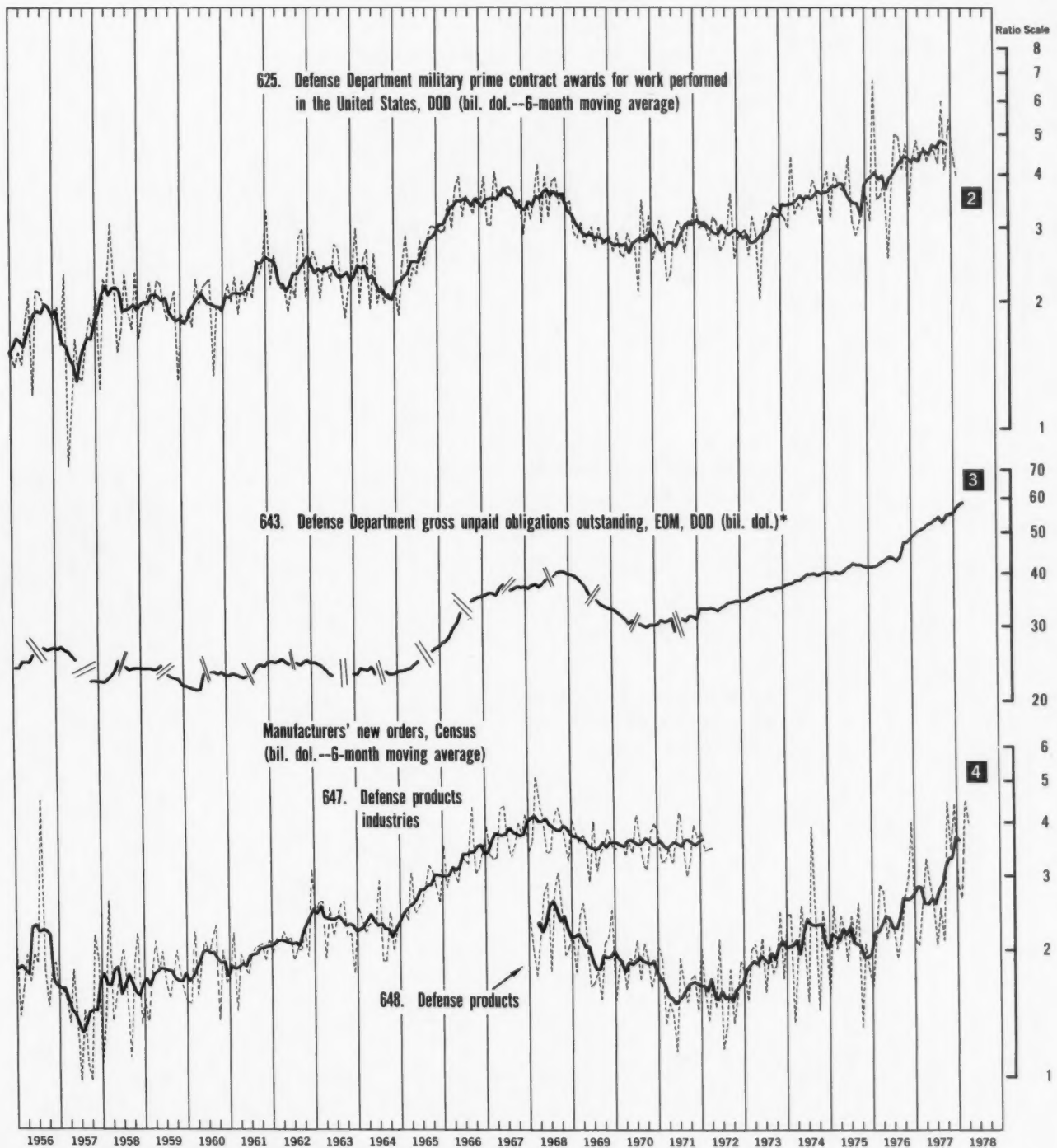
2

Advance Indicators of Defense Activity



Current data for these series are shown on pages 15 and 16.

Advance Indicators of Defense Activity--Continued

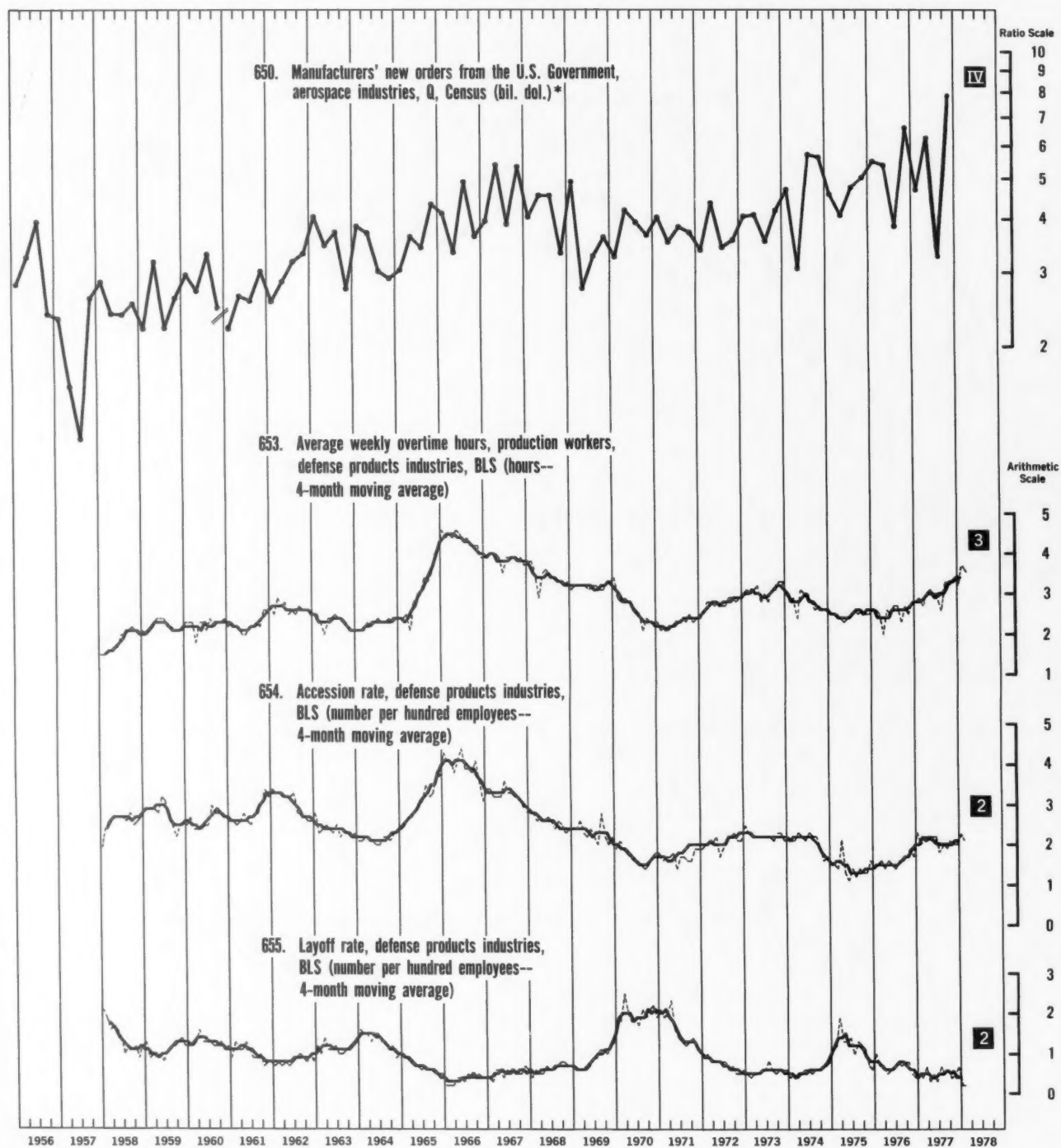


*Data for the following months are not available: July of 1956-71; August of 1956-57 and 1963-66; September of 1957, 1963, and 1965; October and November of 1963. Current data for these series are shown on pages 16 and 20.

CHART

2

Advance Indicators of Defense Activity--Continued

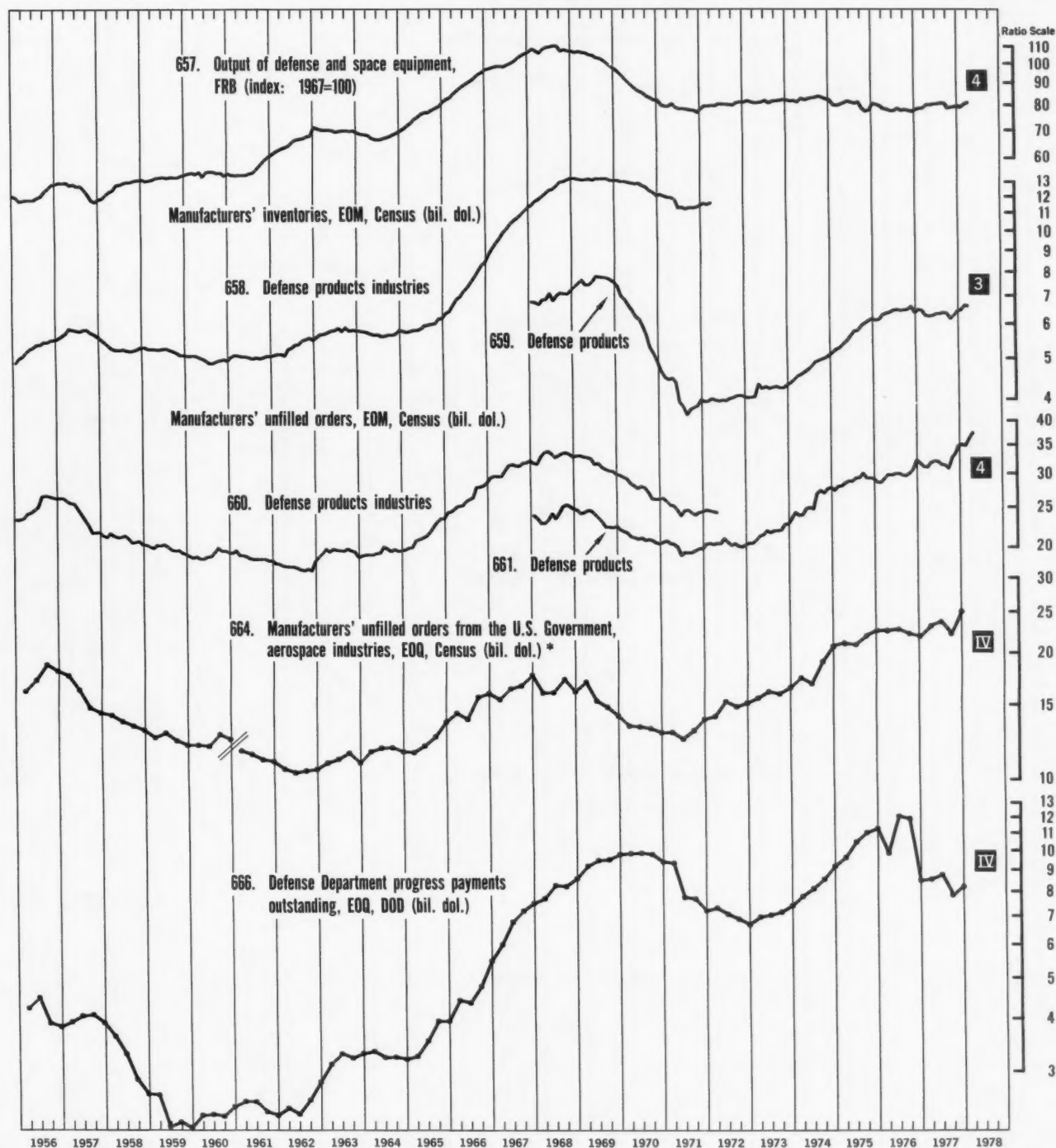


*Data prior to 1961 include orders from non-Government customers.
Current data for these series are shown on pages 20 and 21.

CHART

3

Intermediate and Final Indicators of Defense Activity

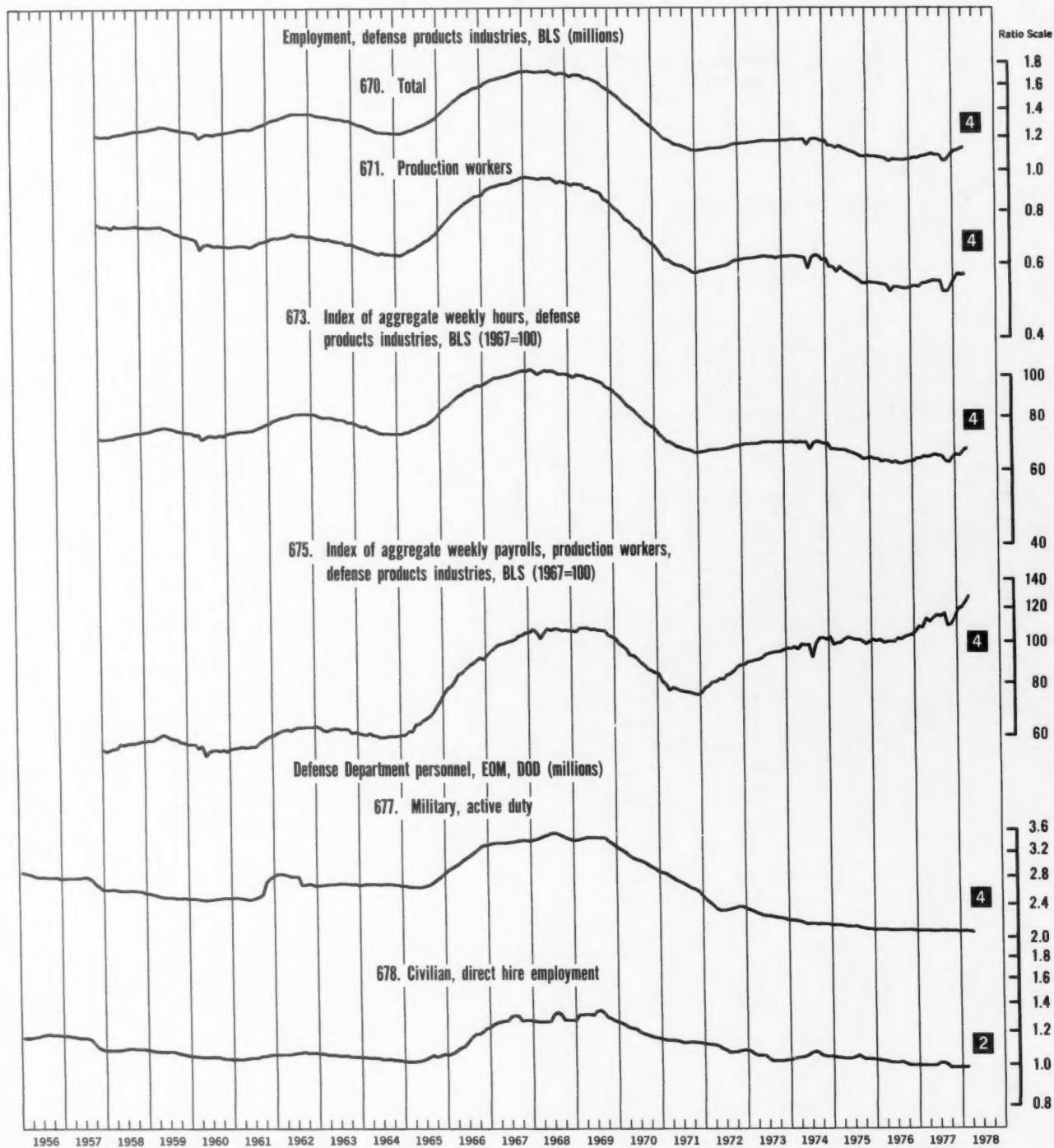


*Data prior to 1961 include orders from non-Government customers.
Current data for these series are shown on page 22

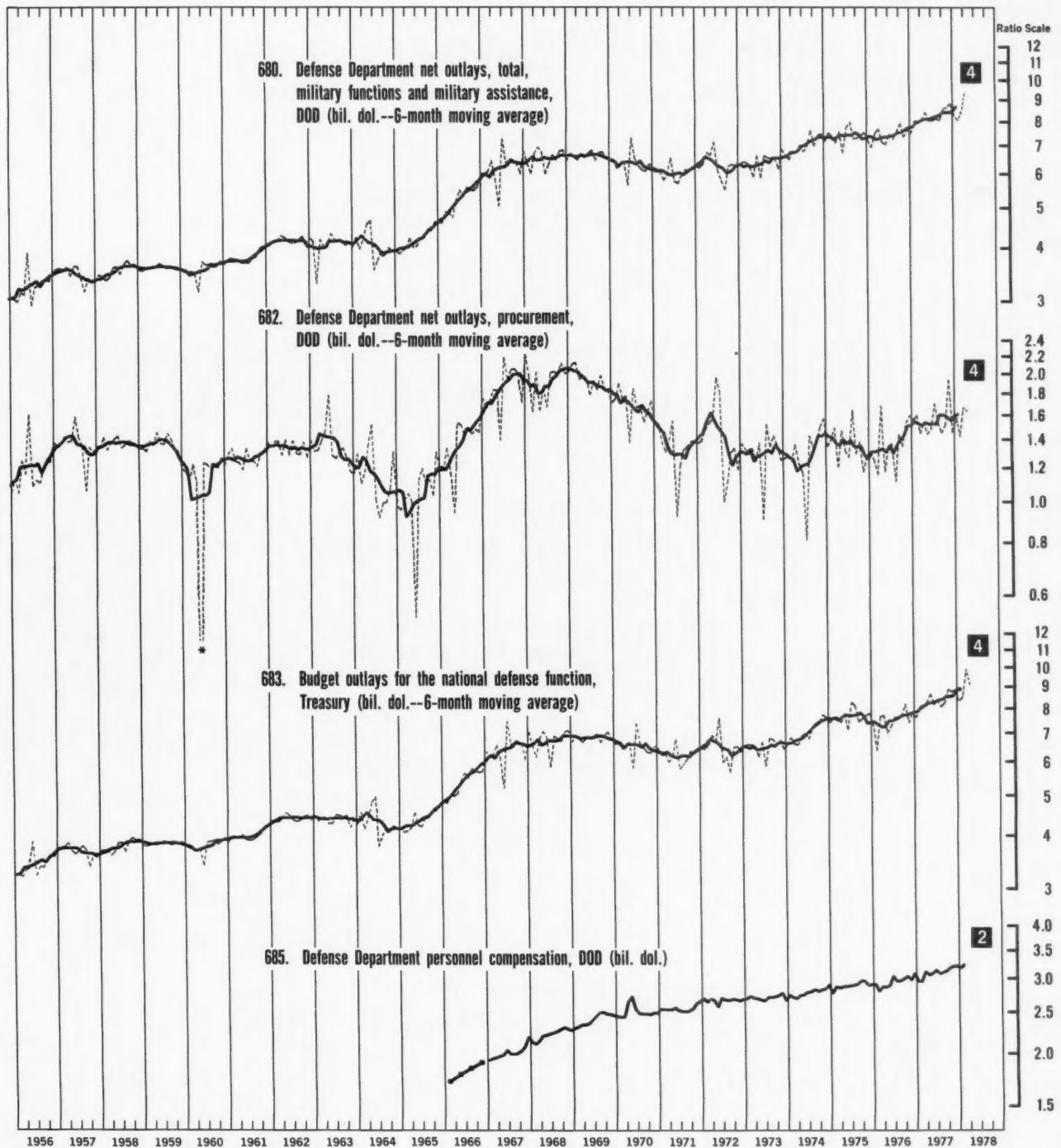
CHART

3

Intermediate and Final Indicators of Defense Activity--Continued



Intermediate and Final Indicators of Defense Activity--Continued

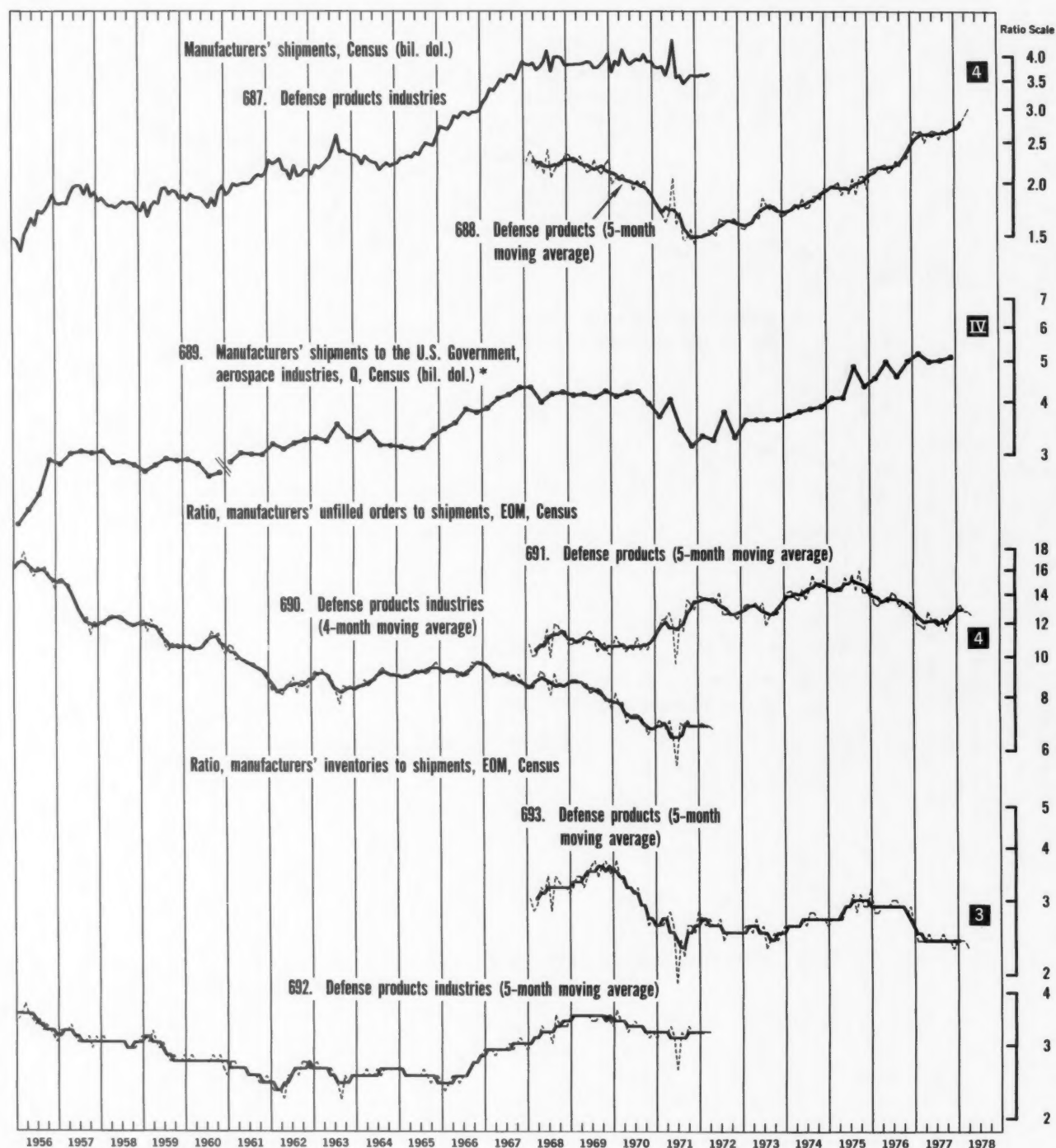


*June 1960 figure for net expenditures for procurement is \$245 million.
Current data for these series are shown on pages 24 and 25.

CHART

3

Intermediate and Final Indicators of Defense Activity--Continued

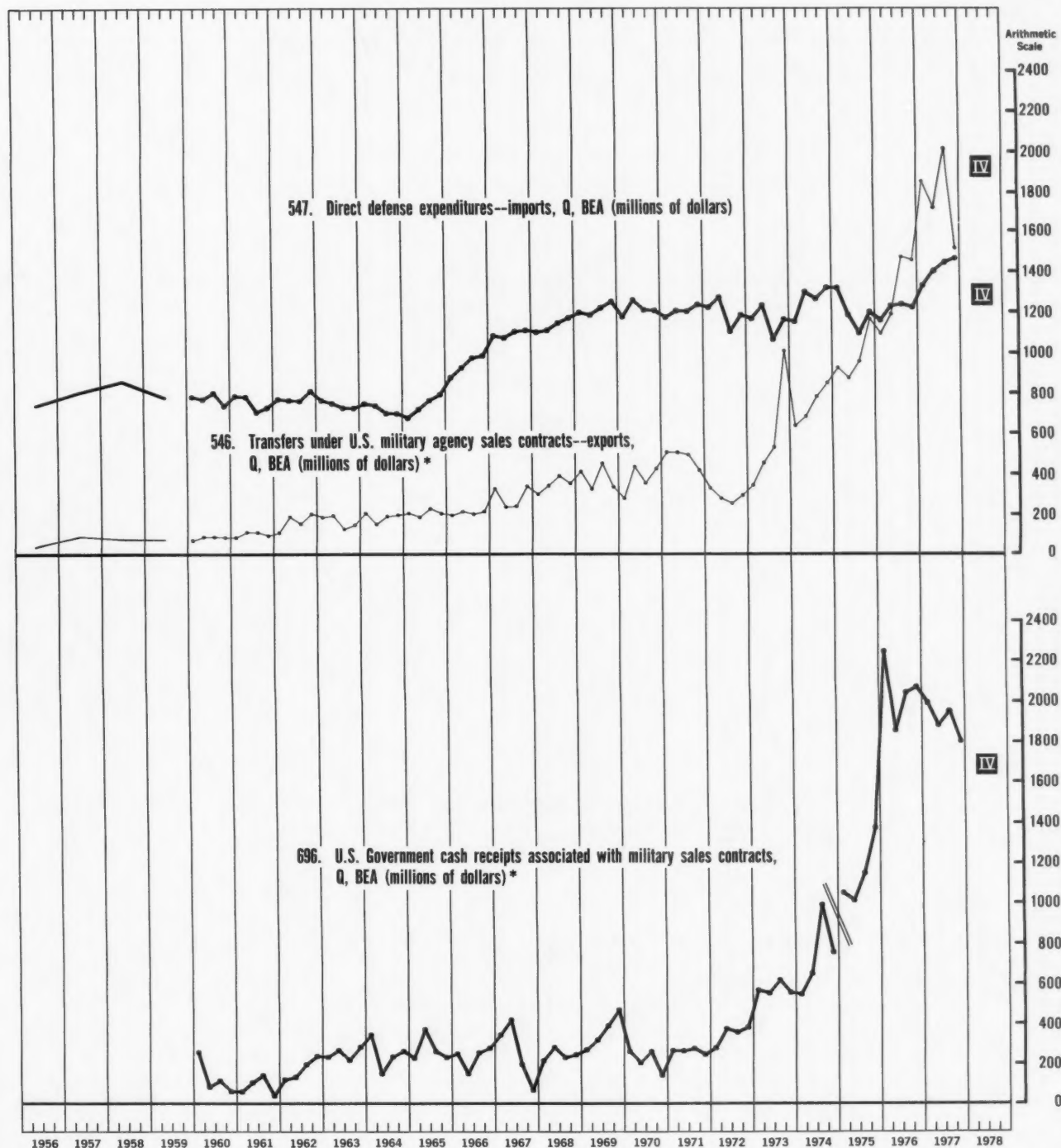


*Data prior to 1961 include shipments to non-Government customers.
Current data for these series are shown on page 26.

CHART

4

Defense-Related Balance of Payments Components



* See footnotes 1 and 2 on page 27.
Current data for these series are shown on page 27.

defense indicators

TABLE

1

Gross National Product and National Defense Purchases

| Year and quarter | 200(a). Gross national product, BEA* | 264(a). Federal Government purchases of goods and services, national defense, BEA* | 613. National defense purchases as a percent of gross national product, BEA* | 200(b). Change in gross national product, BEA* | 264(b). Change in Federal Government purchases of goods and services, national defense, BEA* |
|--------------------------|--------------------------------------|--|--|--|--|
| | (Ann. rate, bil. dol.) | (Ann. rate, bil. dol.) | (Percent) | (Ann. rate, bil. dol.) | (Ann. rate, bil. dol.) |
| 1974 | | | | | |
| First quarter | 1,369.0 | 74.6 | 5.4 | 13.9 | 0.2 |
| Second quarter | 1,400.1 | 75.8 | 5.4 | 31.1 | 1.2 |
| Third quarter | 1,430.1 | 77.9 | 5.4 | 30.0 | 2.1 |
| Fourth quarter | 1,452.4 | 79.6 | 5.5 | 22.3 | 1.7 |
| 1975 | | | | | |
| First quarter | 1,453.0 | 81.6 | 5.6 | 0.6 | 2.0 |
| Second quarter | 1,496.6 | 83.0 | 5.5 | 43.6 | 1.4 |
| Third quarter | 1,564.9 | 84.4 | 5.4 | 68.3 | 1.4 |
| Fourth quarter | 1,600.7 | 86.7 | 5.4 | 35.8 | 2.3 |
| 1976 | | | | | |
| First quarter | 1,651.2 | 86.3 | 5.2 | 50.5 | -0.4 |
| Second quarter | 1,691.9 | 86.0 | 5.1 | 40.7 | -0.3 |
| Third quarter | 1,727.3 | 86.4 | 5.0 | 35.4 | 0.4 |
| Fourth quarter | 1,755.4 | 88.4 | 5.0 | 28.1 | 2.0 |
| 1977 | | | | | |
| First quarter | 1,810.8 | 89.7 | 5.0 | 55.4 | 1.3 |
| Second quarter | 1,869.9 | 93.4 | 5.0 | 59.1 | 3.7 |
| Third quarter | 1,915.9 | 95.6 | 5.0 | 46.0 | 2.2 |
| Fourth quarter | 1,961.8 | 98.5 | 5.0 | 45.9 | 2.9 |
| 1978 | | | | | |
| First quarter | r1,993.4 | r99.5 | 5.0 | r31.6 | r1.0 |
| Second quarter | | | | | |
| Third quarter | | | | | |
| Fourth quarter | | | | | |

Note: All data on this page are seasonally adjusted. NA=not available; p=preliminary; r=revised; e=estimated. *Indicates series shown in charts. (See page 5.)

Advance Indicators of Defense Activity

| Year and month | Defense Department gross obligations incurred, DOD | | | | | | | |
|-----------------|--|----------------------|---|-------------------------|---------------------|-------------------------|----------------------|---|
| | 617. Total | | | 619. Operations | | 621. Procurement | | |
| | Not seasonally adjusted | Seasonally adjusted* | Moving average of seasonally adjusted data—6-month* | Not seasonally adjusted | Seasonally adjusted | Not seasonally adjusted | Seasonally adjusted* | Moving average of seasonally adjusted data—6-month* |
| | (Mil. dol.) | (Mil. dol.) | (Mil. dol.) | (Mil. dol.) | (Mil. dol.) | (Mil. dol.) | (Mil. dol.) | (Mil. dol.) |
| 1976 | | | | | | | | |
| January | 8,652 | 8,393 | 8,245 | 6,010 | 5,621 | 1,697 | 1,453 | 1,594 |
| February | 7,206 | 8,442 | 8,436 | 4,745 | 5,233 | 1,664 | 1,672 | 1,676 |
| March | 8,241 | 8,727 | 8,574 | 4,995 | 5,467 | 2,093 | 2,014 | 1,779 |
| April | 8,677 | 9,033 | 8,679 | 5,946 | 5,810 | 1,688 | 2,096 | 1,841 |
| May | 6,824 | 8,764 | 8,901 | 4,828 | 5,551 | 1,155 | 1,828 | 1,958 |
| June | 11,318 | 8,713 | 8,725 | 5,949 | 5,041 | 3,218 | 1,983 | 1,971 |
| July | 9,592 | 9,727 | 8,939 | 6,362 | 6,317 | 1,812 | 2,157 | 2,022 |
| August | 7,427 | 7,384 | 9,086 | 5,055 | 5,100 | 1,458 | 1,747 | 2,048 |
| September | 9,839 | 10,015 | 9,081 | 6,120 | 5,969 | 2,152 | 2,318 | 2,134 |
| October | 12,636 | 9,914 | 9,275 | 7,447 | 5,948 | 2,312 | 2,253 | 2,233 |
| November | 9,620 | 8,733 | 9,287 | 5,561 | 5,722 | 2,497 | 2,344 | 2,236 |
| December | 9,903 | 9,874 | 9,684 | 5,341 | 5,750 | 2,855 | 2,580 | 2,351 |
| 1977 | | | | | | | | |
| January | 9,838 | 9,804 | 9,660 | 6,352 | 5,921 | 2,138 | 2,175 | 2,302 |
| February | 8,787 | 9,763 | 9,620 | 5,501 | 6,090 | 2,206 | 2,313 | 2,294 |
| March | 8,958 | 9,873 | 9,817 | 5,537 | 6,058 | 2,087 | 2,146 | 2,260 |
| April | 10,091 | 9,671 | 9,811 | 6,365 | 5,980 | 2,640 | 2,203 | 2,180 |
| May | 8,141 | 9,919 | 9,760 | 5,344 | 6,167 | 1,908 | 2,143 | 2,143 |
| June | 9,451 | 9,835 | 9,880 | 5,739 | 6,081 | 2,077 | 2,098 | 2,216 |
| July | 8,332 | 9,498 | 9,759 | 6,195 | 6,093 | 1,249 | 1,956 | 2,264 |
| August | 8,763 | 10,486 | 9,930 | 5,337 | 6,071 | 1,861 | 2,752 | 2,352 |
| September | 11,642 | 9,143 | 9,978 | 6,517 | 5,503 | 3,511 | 2,430 | 2,421 |
| October | 13,810 | 10,697 | 9,947 | 7,786 | 6,232 | 2,898 | 2,734 | 2,468 |
| November | 11,106 | 10,208 | 10,191 | 6,336 | 6,459 | 2,719 | 2,553 | 2,573 |
| December | 9,594 | 9,652 | 10,178 | 5,705 | 6,188 | 2,677 | 2,386 | 2,605 |
| 1978 | | | | | | | | |
| January | 10,991 | 10,958 | 10,366 | 7,291 | 6,745 | 2,501 | 2,581 | 2,622 |
| February | 9,327 | 10,410 | (NA) | 5,639 | 6,266 | 2,771 | 2,945 | (NA) |
| March | 9,491 | 10,272 | | 5,912 | 6,482 | 2,476 | 2,534 | |
| April | (NA) | (NA) | | (NA) | (NA) | (NA) | (NA) | |
| May | | | | | | | | |
| June | | | | | | | | |
| July | | | | | | | | |
| August | | | | | | | | |
| September | | | | | | | | |
| October | | | | | | | | |
| November | | | | | | | | |
| December | | | | | | | | |

NA=not available; p=preliminary; r=revised; e=estimated. *Indicates series shown in charts. (See page 6.)

TABLE
2

Advance Indicators of Defense Activity--Continued

| Year and month | 623. Gross obligations incurred outside the Federal Government for national defense, Treasury | | Defense Department military prime contract awards for work performed in the United States, DOD | | | | | | |
|-----------------|---|--|--|----------------------|--|-------------------------|---------------------|--------------------------------|---------------------|
| | | | 625. Total | | | 626. Aircraft | | 627. Missile and space systems | |
| | Seasonally adjusted* | Moving average of seasonally adjusted data--6-month* | Not seasonally adjusted | Seasonally adjusted* | Moving average of seasonally adjusted data--6-month* | Not seasonally adjusted | Seasonally adjusted | Not seasonally adjusted | Seasonally adjusted |
| | (Mil. dol.) | (Mil. dol.) | (Mil. dol.) | (Mil. dol.) | (Mil. dol.) | (Mil. dol.) | (Mil. dol.) | (Mil. dol.) | (Mil. dol.) |
| 1976 | | | | | | | | | |
| January | 9,581 | 8,862 | 3,288 | 3,536 | 3,782 | 546 | ... | 341 | ... |
| February | 9,495 | 9,156 | 2,529 | 3,101 | 3,886 | 356 | 2,744 | 278 | 1,347 |
| March | 10,032 | 9,029 | 5,356 | 6,713 | 3,966 | 2,064 | ... | 243 | ... |
| April | 9,594 | p9,424 | 2,600 | 3,489 | 4,039 | 326 | ... | 290 | ... |
| May | 8,932 | p9,416 | 2,563 | 3,543 | 3,873 | 576 | 3,011 | 213 | 1,338 |
| June | p8,912 | p9,237 | 6,843 | 3,854 | 3,964 | 1,562 | ... | 602 | ... |
| July | 9,532 | p9,229 | 2,592 | 2,535 | 3,676 | 416 | ... | 287 | ... |
| August | 8,420 | p9,348 | 3,969 | 3,652 | 3,911 | 914 | 2,189 | 422 | 1,257 |
| September | 9,982 | p9,463 | 4,934 | 4,985 | 4,006 | 799 | ... | 521 | ... |
| October | 10,311 | 9,785 | 6,269 | 4,897 | 4,152 | 896 | ... | 771 | ... |
| November | 9,620 | 9,949 | 4,580 | 4,114 | 4,289 | 1,140 | 2,877 | 1,060 | 1,547 |
| December | 10,842 | 10,209 | 4,543 | 4,729 | 4,408 | 1,442 | ... | 639 | ... |
| 1977 | | | | | | | | | |
| January | 10,519 | 10,316 | 3,360 | 3,354 | 4,380 | 955 | ... | 355 | ... |
| February | 9,981 | 10,338 | 3,685 | 4,369 | 4,281 | 959 | 2,691 | 362 | 1,433 |
| March | 10,624 | 10,583 | 4,325 | 4,819 | 4,371 | 680 | ... | 610 | ... |
| April | 10,443 | 10,528 | 4,041 | 4,303 | 4,300 | 1,274 | ... | 371 | ... |
| May | 11,089 | 9,993 | 3,778 | 4,654 | 4,512 | 852 | 2,797 | 309 | 1,514 |
| June | 10,512 | 10,373 | 3,349 | 4,300 | 4,554 | 695 | ... | 387 | ... |
| July | 7,311 | 10,044 | 3,696 | 4,624 | 4,460 | 1,280 | ... | 354 | ... |
| August | 12,256 | 10,114 | 3,750 | 4,623 | r4,747 | 494 | 2,970 | 251 | 1,627 |
| September | 8,655 | 10,024 | 7,371 | 4,255 | rp4,654 | 644 | ... | 657 | ... |
| October | 10,859 | 10,084 | r7,764 | r6,028 | rp4,845 | r2,080 | ... | 978 | ... |
| November | 10,550 | (NA) | p4,571 | p4,096 | rp4,832 | p894 | p3,458 | p586 | p1,552 |
| December | 10,871 | | p5,210 | p5,444 | rp4,726 | p1,259 | ... | p933 | ... |
| 1978 | | | | | | | | | |
| January | (NA) | | p4,549 | p4,549 | (NA) | p1,297 | ... | p408 | ... |
| February | | | p3,344 | p3,981 | | p554 | (NA) | p268 | (NA) |
| March | | | (NA) | (NA) | | (NA) | | (NA) | |
| April | | | | | | | | | |
| May | | | | | | | | | |
| June | | | | | | | | | |
| July | | | | | | | | | |
| August | | | | | | | | | |
| September | | | | | | | | | |
| October | | | | | | | | | |
| November | | | | | | | | | |
| December | | | | | | | | | |

NA=not available; p=preliminary; r=revised; e=estimated. *Indicates series shown in charts. (See pages 6 and 7.)

TABLE
2

Advance Indicators of Defense Activity--Continued

| Year and month | Defense Department military prime contract awards for work performed in the United States, DOD--Continued | | | | | | |
|-----------------|---|-----------------------------|---------------------|--|---------------------|-------------------------|---------------------|
| | 628. Ships, not seasonally adjusted | 629. Weapons and ammunition | | 630. Electronic and communications equipment | | 631. Combat vehicles | |
| | | Not seasonally adjusted | Seasonally adjusted | Not seasonally adjusted | Seasonally adjusted | Not seasonally adjusted | Seasonally adjusted |
| | (Mil. dol.) | (Mil. dol.) | (Mil. dol.) | (Mil. dol.) | (Mil. dol.) | (Mil. dol.) | (Mil. dol.) |
| 1976 | | | | | | | |
| January | 310 | 76 | ... | 263 | ... | 48 | ... |
| February | 124 | 101 | 348 | 305 | 1,110 | 26 | 238 |
| March | 1,213 | 148 | ... | 442 | ... | 61 | ... |
| April | 306 | 158 | ... | 348 | ... | 32 | ... |
| May | 65 | 135 | 447 | 381 | 1,204 | 63 | 415 |
| June | 346 | 450 | ... | 735 | ... | 512 | ... |
| July | 506 | 52 | ... | 207 | ... | 4 | ... |
| August | 91 | 90 | 550 | 506 | 1,478 | 150 | 242 |
| September | 396 | 418 | ... | 664 | ... | 119 | ... |
| October | 861 | 108 | ... | 410 | ... | 252 | ... |
| November | 153 | 121 | 840 | 710 | 1,778 | 47 | 445 |
| December | 178 | 173 | ... | 566 | ... | 204 | ... |
| 1977 | | | | | | | |
| January | 283 | 90 | ... | 427 | ... | 74 | ... |
| February | 478 | 177 | 461 | 436 | 1,470 | 74 | 418 |
| March | 483 | 131 | ... | 473 | ... | 152 | ... |
| April | 322 | 193 | ... | 615 | ... | 25 | ... |
| May | 273 | 225 | 571 | 521 | 1,869 | 71 | 261 |
| June | 288 | 132 | ... | 512 | ... | 69 | ... |
| July | 118 | 133 | ... | 460 | ... | 39 | ... |
| August | 283 | 218 | 575 | 731 | 1,941 | 65 | 196 |
| September | 1,078 | 661 | ... | 1,245 | ... | 170 | ... |
| October | 429 | r193 | ... | r401 | ... | 271 | ... |
| November | p562 | p177 | rpl,266 | p567 | rpl,856 | p67 | p384 |
| December | p221 | p235 | ... | p771 | ... | p96 | ... |
| 1978 | | | | | | | |
| January | p489 | p203 | ... | p623 | ... | p33 | ... |
| February | p377 | p200 | (NA) | p589 | (NA) | p164 | (NA) |
| March | (NA) | (NA) | | (NA) | | (NA) | |
| April | | | | | | | |
| May | | | | | | | |
| June | | | | | | | |
| July | | | | | | | |
| August | | | | | | | |
| September | | | | | | | |
| October | | | | | | | |
| November | | | | | | | |
| December | | | | | | | |

NA=not available; p=preliminary; r=revised; e=estimated.

defense indicators

TABLE

2

Advance Indicators of Defense Activity--Continued

| Year and month | Defense Department military prime contract awards for work performed in the United States, DOD--Continued | | | | | | | |
|-----------------|---|---------------------|-------------------------|---------------------|-------------------------|---------------------|-------------------------|---------------------|
| | 632. Other hard goods | | 633. Soft goods | | 634. Construction | | 635. Services | |
| | Not seasonally adjusted | Seasonally adjusted | Not seasonally adjusted | Seasonally adjusted | Not seasonally adjusted | Seasonally adjusted | Not seasonally adjusted | Seasonally adjusted |
| | (Mil. dol.) | (Mil. dol.) | (Mil. dol.) | (Mil. dol.) | (Mil. dol.) | (Mil. dol.) | (Mil. dol.) | (Mil. dol.) |
| 1976 | | | | | | | | |
| January | 190 | ... | 817 | ... | 85 | ... | 244 | ... |
| February | 180 | 570 | 330 | 1,185 | 107 | 576 | 256 | 937 |
| March | 166 | ... | 187 | ... | 151 | ... | 230 | ... |
| April | 173 | ... | 221 | ... | 198 | ... | 179 | ... |
| May | 159 | 472 | 120 | 981 | 213 | 523 | 158 | 949 |
| June | 316 | ... | 243 | ... | 791 | ... | 587 | ... |
| July | 92 | ... | 287 | ... | 79 | ... | 335 | ... |
| August | 177 | 599 | 513 | 1,056 | 196 | 649 | 504 | 1,208 |
| September | 324 | ... | 171 | ... | 403 | ... | 429 | ... |
| October | 105 | ... | 1,760 | ... | 42 | ... | 660 | ... |
| November | 226 | 660 | 220 | 1,523 | 82 | 468 | 391 | 1,086 |
| December | 199 | ... | 295 | ... | 136 | ... | 275 | ... |
| 1977 | | | | | | | | |
| January | 213 | ... | 163 | ... | 125 | ... | 241 | ... |
| February | 141 | 653 | 181 | 823 | 101 | 709 | 371 | 861 |
| March | 222 | ... | 538 | ... | 175 | ... | 242 | ... |
| April | 237 | ... | 166 | ... | 142 | ... | 211 | ... |
| May | 203 | 709 | 156 | 748 | 456 | 1,232 | 220 | 915 |
| June | 214 | ... | 200 | ... | 228 | ... | 204 | ... |
| July | 271 | ... | 170 | ... | 160 | ... | 215 | ... |
| August | 229 | 699 | 191 | 942 | 531 | 630 | 243 | 1,080 |
| September | 460 | ... | 253 | ... | 762 | ... | 718 | ... |
| October | r114 | ... | r2,043 | ... | r71 | ... | r791 | ... |
| November | p157 | rp666 | p250 | p1,713 | p127 | rp764 | p692 | p1,621 |
| December | p272 | ... | p264 | ... | p220 | ... | p487 | ... |
| 1978 | | | | | | | | |
| January | p194 | ... | p169 | ... | p367 | ... | p274 | ... |
| February | p192 | (NA) | p181 | (NA) | p110 | (NA) | p254 | (NA) |
| March | (NA) | | (NA) | | (NA) | | (NA) | |
| April | | | | | | | | |
| May | | | | | | | | |
| June | | | | | | | | |
| July | | | | | | | | |
| August | | | | | | | | |
| September | | | | | | | | |
| October | | | | | | | | |
| November | | | | | | | | |
| December | | | | | | | | |

NA=not available; p=preliminary; r=revised; e=estimated.

Advance Indicators of Defense Activity--Continued

| Year and month | Defense Department military prime contract awards for work performed in the United States, DOD--Continued | | | | | 640. Defense Department military prime contract awards for work outside the United States, DOD | |
|-----------------|---|---------------------|---|---------------------|---|--|---------------------|
| | 636. Contracts under \$10,000 | | 637. Educational and nonprofit institutions | | 638. Civilian Health and Medical Program of the Uniformed Services (CHAMPUS), not seasonally adjusted | Not seasonally adjusted | Seasonally adjusted |
| | Not seasonally adjusted | Seasonally adjusted | Not seasonally adjusted | Seasonally adjusted | | | |
| | (Mil. dol.) | (Mil. dol.) | (Mil. dol.) | (Mil. dol.) | (Mil. dol.) | (Mil. dol.) | (Mil. dol.) |
| 1976 | | | | | | | |
| January | 327 | ... | 39 | ... | 2 | 286 | ... |
| February | 416 | 1,175 | 48 | 180 | 2 | 95 | 760 |
| March | 405 | ... | 44 | ... | 2 | 139 | ... |
| April | 300 | ... | 68 | ... | 1 | 147 | ... |
| May | 430 | 1,124 | 50 | 268 | 0 | 93 | 658 |
| June | 625 | ... | 73 | ... | 1 | 306 | ... |
| July | 253 | ... | 74 | ... | 0 | 208 | ... |
| August | 351 | 1,194 | 55 | 195 | 0 | 132 | 612 |
| September | 615 | ... | 74 | ... | 1 | 347 | ... |
| October | 201 | ... | 203 | ... | 0 | 575 | ... |
| November | 303 | 1,066 | 127 | 259 | 0 | 107 | 612 |
| December | 358 | ... | 78 | ... | 0 | 175 | ... |
| 1977 | | | | | | | |
| January | 365 | ... | 69 | ... | 0 | 362 | ... |
| February | 344 | 1,254 | 61 | 225 | 0 | 74 | 632 |
| March | 528 | ... | 91 | ... | 0 | 191 | ... |
| April | 420 | ... | 65 | ... | 0 | 101 | ... |
| May | 451 | 1,292 | 41 | 216 | 0 | 103 | 649 |
| June | 384 | ... | 36 | ... | 0 | 157 | ... |
| July | 449 | ... | 47 | ... | 0 | 190 | ... |
| August | 464 | 1,254 | 50 | 223 | 0 | 174 | 907 |
| September | 643 | ... | 80 | ... | 0 | 613 | ... |
| October | r254 | ... | 139 | ... | 0 | 633 | ... |
| November | p363 | rp1,152 | p129 | p254 | p0 | p163 | p766 |
| December | p315 | ... | p137 | ... | p0 | p277 | ... |
| 1978 | | | | | | | |
| January | p398 | ... | p94 | ... | p0 | p289 | ... |
| February | p346 | (NA) | p109 | (NA) | p0 | p131 | (NA) |
| March | (NA) | | (NA) | | (NA) | (NA) | |
| April | | | | | | | |
| May | | | | | | | |
| June | | | | | | | |
| July | | | | | | | |
| August | | | | | | | |
| September | | | | | | | |
| October | | | | | | | |
| November | | | | | | | |
| December | | | | | | | |

NA=not available; p=preliminary; r=revised; e=estimated.

defense indicators

TABLE

2

Advance Indicators of Defense Activity--Continued

| Year and month | Defense Department gross unpaid obligations outstanding, DOD | | | | | | 648. Manufacturers' new orders, defense products, Census | | 650. Manufacturers' new orders from the U.S. Government, aerospace industries, Census, seasonally adjusted* |
|-----------------|--|----------------------|-------------------------|---------------------|-------------------------|---------------------|--|---|---|
| | 643. Total | | 644. Operations | | 645. Procurement | | | | |
| | Not seasonally adjusted | Seasonally adjusted* | Not seasonally adjusted | Seasonally adjusted | Not seasonally adjusted | Seasonally adjusted | Seasonally adjusted* | Moving average of seasonally adjusted data—6-month* | |
| | (Mil. dol.) | (Mil. dol.) | (Mil. dol.) | (Mil. dol.) | (Mil. dol.) | (Mil. dol.) | (Mil. dol.) | (Mil. dol.) | |
| 1976 | | | | | | | | | |
| January | 42,110 | 41,358 | 8,947 | 8,548 | 25,503 | 24,905 | 1,627 | 1,961 | ... |
| February | 41,512 | 41,459 | 8,538 | 8,681 | 25,586 | 24,841 | 2,132 | 2,201 | 5,493 |
| March | 41,046 | 41,866 | 7,966 | 8,658 | 25,783 | 25,277 | 2,832 | 2,210 | ... |
| April | 41,029 | 42,494 | 8,253 | 8,827 | 25,606 | 25,657 | 2,751 | 2,305 | ... |
| May | 39,742 | 42,970 | 7,795 | 8,914 | 25,125 | 25,929 | 2,124 | 2,403 | 5,383 |
| June | 42,152 | 43,612 | 8,037 | 8,780 | 26,508 | 26,482 | 2,362 | 2,368 | ... |
| July | 43,366 | 43,251 | 8,939 | 8,717 | 26,537 | 27,162 | 2,218 | 2,253 | ... |
| August | 42,525 | 42,558 | 8,569 | 8,610 | 26,346 | 26,802 | 1,921 | 2,239 | 3,844 |
| September | 43,351 | 43,663 | 8,615 | 8,629 | 26,832 | 27,185 | 2,141 | 2,376 | ... |
| October | 47,890 | 47,366 | 10,624 | 10,364 | 27,632 | 27,827 | 2,666 | 2,648 | ... |
| November | 48,988 | 47,385 | 10,700 | 9,947 | 28,934 | 28,733 | 2,950 | 2,629 | 6,606 |
| December | 50,354 | 48,497 | 10,374 | 9,898 | 29,348 | 29,202 | 3,989 | 2,651 | ... |
| 1977 | | | | | | | | | |
| January | 51,694 | 49,258 | 11,150 | 9,994 | 29,966 | 29,465 | 2,104 | 2,717 | ... |
| February | 52,016 | 50,229 | 11,122 | 10,404 | 30,485 | 29,946 | 2,055 | 2,819 | 4,684 |
| March | 51,326 | 50,761 | 10,563 | 10,493 | 30,550 | 30,128 | 2,538 | 2,809 | ... |
| April | 52,309 | 51,236 | 10,978 | 10,499 | 31,330 | 31,551 | 3,279 | 2,576 | ... |
| May | 51,512 | 52,170 | 10,574 | 10,912 | 31,390 | 32,562 | 2,888 | 2,569 | 6,262 |
| June | 51,549 | 52,625 | 10,320 | 11,094 | 31,449 | 31,449 | 2,590 | 2,644 | ... |
| July | 50,898 | 53,383 | 10,676 | 11,229 | 30,853 | 31,259 | 2,064 | 2,573 | ... |
| August | 50,133 | 54,262 | 9,792 | 11,449 | 30,791 | 31,292 | 2,508 | 2,770 | 3,285 |
| September | 50,245 | 52,697 | 9,474 | 10,447 | 32,473 | 32,603 | 2,110 | 2,859 | ... |
| October | 55,512 | 54,775 | 11,412 | 11,124 | 33,723 | 33,455 | 4,459 | 3,160 | ... |
| November | 57,421 | 55,479 | 11,835 | 10,999 | 34,500 | 34,024 | 3,421 | r3,294 | p7,840 |
| December | 58,002 | 55,771 | 11,634 | 11,112 | 35,312 | 35,032 | 4,396 | r3,319 | ... |
| 1978 | | | | | | | | | |
| January | 60,169 | 57,304 | 12,913 | 11,571 | 36,141 | 35,607 | r2,871 | r3,715 | ... |
| February | 60,503 | 58,401 | 12,537 | 11,739 | 37,182 | 36,669 | r2,656 | p3,634 | (NA) |
| March | 59,635 | 58,986 | 11,714 | 11,644 | 37,425 | 36,799 | r4,485 | | |
| April | (NA) | (NA) | (NA) | (NA) | (NA) | (NA) | p3,977 | | |
| May | | | | | | | | | |
| June | | | | | | | | | |
| July | | | | | | | | | |
| August | | | | | | | | | |
| September | | | | | | | | | |
| October | | | | | | | | | |
| November | | | | | | | | | |
| December | | | | | | | | | |

NA=not available; p=preliminary; r=revised; e=estimated. *Indicates series shown in charts. (See pages 7 and 8.)

Advance Indicators of Defense Activity--Continued

| Year and month | 653. Average weekly overtime hours, production workers, defense products industries, BLS | | | 654. Accession rate, defense products industries, BLS | | | 655. Layoff rate, defense products industries, BLS | | |
|-----------------|--|----------------------|--|---|----------------------|--|--|----------------------|--|
| | Not seasonally adjusted | Seasonally adjusted* | Moving average of seasonally adjusted data--4-month* | Not seasonally adjusted | Seasonally adjusted* | Moving average of seasonally adjusted data--4-month* | Not seasonally adjusted | Seasonally adjusted* | Moving average of seasonally adjusted data--4-month* |
| | (Hours) | (Hours) | (Hours) | (Per 100 employees) | (Per 100 employees) | (Per 100 employees) | (Per 100 employees) | (Per 100 employees) | (Per 100 employees) |
| 1976 | | | | | | | | | |
| January | 2.5 | 2.6 | 2.6 | 1.3 | 1.4 | 1.4 | 1.1 | 1.0 | 0.8 |
| February | 2.5 | 2.6 | 2.6 | 1.3 | 1.5 | 1.5 | 0.8 | 0.7 | 0.8 |
| March | 2.4 | 2.5 | 2.4 | 1.5 | 1.6 | 1.5 | 0.8 | 0.7 | 0.7 |
| April | 1.7 | 2.0 | 2.4 | 1.2 | 1.4 | 1.5 | 0.6 | 0.5 | 0.6 |
| May | 2.3 | 2.6 | 2.4 | 1.6 | 1.6 | 1.5 | 0.6 | 0.6 | 0.6 |
| June | 2.5 | 2.5 | 2.4 | 2.1 | 1.5 | 1.5 | 0.6 | 0.7 | 0.6 |
| July | 2.4 | 2.7 | 2.6 | 1.6 | 1.4 | 1.5 | 0.7 | 0.8 | 0.7 |
| August | 2.7 | 2.7 | 2.6 | 2.0 | 1.6 | 1.5 | 0.6 | 0.7 | 0.8 |
| September | 2.6 | 2.3 | 2.6 | 1.9 | 1.6 | 1.6 | 0.6 | 0.8 | 0.8 |
| October | 2.8 | 2.7 | 2.6 | 1.8 | 1.7 | 1.7 | 0.8 | 0.8 | 0.7 |
| November | 2.8 | 2.5 | 2.6 | 1.6 | 1.9 | 1.7 | 0.5 | 0.5 | 0.6 |
| December | 3.2 | 2.8 | 2.7 | 0.9 | 1.7 | 1.9 | 0.3 | 0.4 | 0.6 |
| 1977 | | | | | | | | | |
| January | 2.7 | 2.8 | 2.8 | 2.2 | 2.3 | 2.0 | 0.6 | 0.5 | 0.4 |
| February | 2.8 | 2.9 | 2.8 | 1.8 | 2.0 | 2.0 | 0.5 | 0.4 | 0.5 |
| March | 2.5 | 2.7 | 2.8 | 2.1 | 2.2 | 2.2 | 0.9 | 0.7 | 0.5 |
| April | 2.6 | 3.0 | 2.9 | 2.0 | 2.2 | 2.1 | 0.4 | 0.3 | 0.5 |
| May | 2.9 | 3.1 | 3.0 | 2.3 | 2.2 | 2.2 | 0.5 | 0.5 | 0.4 |
| June | 3.0 | 3.0 | 3.0 | 2.8 | 2.2 | 2.1 | 0.3 | 0.3 | 0.4 |
| July | 2.8 | 3.0 | 2.9 | 2.0 | 1.8 | 2.0 | 0.6 | 0.7 | 0.5 |
| August | 2.7 | 2.6 | 3.0 | 2.4 | 2.0 | 2.0 | 0.4 | 0.5 | 0.5 |
| September | 3.4 | 3.2 | 3.0 | 2.2 | 1.9 | 2.0 | 0.5 | 0.6 | 0.6 |
| October | 3.4 | 3.2 | 3.1 | 2.2 | 2.1 | 2.0 | 0.4 | 0.4 | 0.5 |
| November | 3.5 | 3.3 | 3.3 | 1.7 | 2.0 | 2.0 | 0.4 | 0.5 | 0.6 |
| December | 3.8 | 3.4 | 3.3 | 1.2 | 2.0 | 2.1 | 0.5 | 0.7 | 0.4 |
| 1978 | | | | | | | | | |
| January | 3.1 | 3.2 | 3.4 | 2.2 | 2.3 | 2.1 | 0.3 | 0.2 | 0.4 |
| February | r3.6 | r3.7 | p3.4 | 1.9 | 2.1 | (NA) | 0.3 | 0.2 | (NA) |
| March | p3.3 | p3.5 | (NA) | (NA) | (NA) | | (NA) | (NA) | |
| April | (NA) | (NA) | | | | | | | |
| May | | | | | | | | | |
| June | | | | | | | | | |
| July | | | | | | | | | |
| August | | | | | | | | | |
| September | | | | | | | | | |
| October | | | | | | | | | |
| November | | | | | | | | | |
| December | | | | | | | | | |

NA=not available; p=preliminary; r=revised; e=estimated. *Indicates series shown in charts. (See page 8.)

defense indicators

TABLE

3

Intermediate and Final Indicators of Defense Activity

| Year and month | 657. Output of defense and space equipment, FRB, seasonally adjusted* | 659. Manufacturers' inventories, defense products, Census, seasonally adjusted* | 661. Manufacturers' unfilled orders, defense products, Census, seasonally adjusted* | 664. Manufacturers' unfilled orders from the U.S. Government, aerospace industries, Census, seasonally adjusted* | 666. Defense Department progress payments outstanding, DOD, not seasonally adjusted* | 670. Employment in defense products industries, total, BLS | |
|-----------------|---|---|---|--|--|--|----------------------|
| | (Index: 1967=100) | (Mil. dol.) | (Mil. dol.) | (Mil. dol.) | (Mil. dol.) | Not seasonally adjusted | Seasonally adjusted* |
| 1976 | | | | | | | |
| January | 80.5 | 6,094 | 28,483 | ... | ... | 1,084 | 1,081 |
| February | 80.1 | 6,122 | 28,450 | ... | ... | 1,075 | 1,076 |
| March | 79.5 | 6,274 | 29,114 | 22,498 | 9,848 | 1,071 | 1,077 |
| April | 78.4 | 6,324 | 29,676 | ... | ... | 1,066 | 1,072 |
| May | 78.1 | 6,355 | 29,592 | ... | ... | 1,061 | 1,070 |
| June | 77.5 | 6,436 | 29,842 | 22,692 | 12,041 | 1,060 | 1,064 |
| July | 77.5 | 6,453 | 29,905 | ... | ... | 1,043 | 1,050 |
| August | 78.5 | 6,425 | 29,573 | ... | ... | 1,053 | 1,060 |
| September | 77.6 | 6,445 | 29,519 | 22,152 | 11,881 | 1,062 | 1,059 |
| October | 78.0 | 6,463 | 29,887 | ... | ... | 1,062 | 1,056 |
| November | 77.6 | 6,557 | 30,549 | ... | ... | 1,066 | 1,054 |
| December | 77.2 | 6,352 | 32,102 | 21,866 | 8,465 | 1,070 | 1,060 |
| 1977 | | | | | | | |
| January | 78.0 | 6,458 | 31,556 | ... | ... | 1,067 | 1,062 |
| February | 78.5 | 6,423 | 30,988 | ... | ... | 1,067 | 1,069 |
| March | 78.5 | 6,248 | 30,875 | 23,089 | 8,521 | 1,061 | 1,067 |
| April | 79.9 | 6,227 | 31,659 | ... | ... | 1,071 | 1,077 |
| May | 80.0 | 6,242 | 31,936 | ... | ... | 1,071 | 1,079 |
| June | 80.3 | 6,311 | 31,873 | 23,648 | 8,735 | 1,083 | 1,086 |
| July | 80.4 | 6,310 | 31,292 | ... | ... | 1,084 | 1,092 |
| August | 80.8 | 6,351 | 31,259 | ... | ... | 1,077 | 1,084 |
| September | 80.9 | 6,318 | 30,707 | 22,180 | 7,838 | 1,089 | 1,084 |
| October | 78.9 | 6,149 | 32,558 | ... | ... | 1,056 | 1,050 |
| November | 79.3 | 6,263 | 33,293 | ... | ... | 1,062 | 1,053 |
| December | 79.5 | 6,403 | 35,006 | p25,079 | 8,262 | 1,087 | 1,077 |
| 1978 | | | | | | | |
| January | r79.7 | 6,454 | r35,200 | ... | ... | 1,106 | 1,100 |
| February | r79.1 | 6,636 | r35,087 | ... | ... | 1,105 | 1,105 |
| March | r80.6 | 6,621 | r36,690 | (NA) | (NA) | 1,112 | 1,118 |
| April | p81.2 | (NA) | p37,664 | | | p1,118 | p1,123 |
| May | | | | | | | |
| June | | | | | | | |
| July | | | | | | | |
| August | | | | | | | |
| September | | | | | | | |
| October | | | | | | | |
| November | | | | | | | |
| December | | | | | | | |

NA=not available; p=preliminary; r=revised; e=estimated. *Indicates series shown in charts. (See pages 9 and 10.)

Intermediate and Final Indicators of Defense Activity--Continued

| Year and month | 671. Employment in defense products industries, production workers, BLS | | 673. Index of aggregate weekly hours, defense products industries, BLS | | 675. Index of aggregate weekly payrolls, production workers, defense products industries, BLS | |
|-----------------|---|----------------------|--|----------------------|---|----------------------|
| | Not seasonally adjusted | Seasonally adjusted* | Not seasonally adjusted | Seasonally adjusted* | Not seasonally adjusted | Seasonally adjusted* |
| | (Thous.) | (Thous.) | (1967=100) | (1967=100) | (1967=100) | (1967=100) |
| 1976 | | | | | | |
| January | 545 | 542 | 64.1 | 64.1 | 101.3 | 101.1 |
| February | 540 | 540 | 63.5 | 63.5 | 100.7 | 100.4 |
| March | 537 | 539 | 63.3 | 63.6 | 100.8 | 101.1 |
| April | 533 | 537 | 62.0 | 62.7 | 96.1 | 99.3 |
| May | 530 | 536 | 62.6 | 63.0 | 99.2 | 100.0 |
| June | 529 | 533 | 62.6 | 62.8 | 99.4 | 100.2 |
| July | 510 | 516 | 61.2 | 62.2 | 96.0 | 99.8 |
| August | 520 | 528 | 62.0 | 62.7 | 99.2 | 101.8 |
| September | 529 | 528 | 62.4 | 62.0 | 101.9 | 101.1 |
| October | 529 | 525 | 62.4 | 62.0 | 104.0 | 102.6 |
| November | 532 | 523 | 63.5 | 62.5 | 106.5 | 103.4 |
| December | 533 | 524 | 64.1 | 62.7 | 109.2 | 103.8 |
| 1977 | | | | | | |
| January | 533 | 529 | 63.0 | 62.8 | 106.4 | 105.5 |
| February | 531 | 531 | 63.6 | 63.7 | 108.5 | 108.4 |
| March | 525 | 528 | 63.3 | 63.6 | 107.4 | 107.8 |
| April | 533 | 538 | 63.5 | 64.5 | 109.2 | 113.1 |
| May | 534 | 539 | 63.8 | 64.1 | 110.3 | 111.2 |
| June | 541 | 543 | 64.6 | 64.6 | 112.7 | 113.5 |
| July | 539 | 546 | 64.0 | 65.1 | 110.9 | 115.3 |
| August | 537 | 545 | 64.0 | 64.7 | 111.5 | 114.5 |
| September | 547 | 545 | 65.0 | 64.6 | 117.3 | 116.4 |
| October | 517 | 512 | 63.0 | 62.6 | 110.1 | 108.6 |
| November | 522 | 515 | 63.5 | 62.5 | 112.7 | 109.6 |
| December | 539 | 531 | 65.4 | 64.1 | 119.6 | 114.0 |
| 1978 | | | | | | |
| January | 558 | 552 | 65.5 | 65.3 | 120.6 | 119.4 |
| February | r568 | r568 | r64.6 | r64.6 | r121.0 | r120.3 |
| March | 562 | 566 | 66.1 | 66.3 | 123.6 | 124.1 |
| April | p563 | p567 | p66.1 | p66.9 | p123.1 | p127.3 |
| May | | | | | | |
| June | | | | | | |
| July | | | | | | |
| August | | | | | | |
| September | | | | | | |
| October | | | | | | |
| November | | | | | | |
| December | | | | | | |

NA=not available; p=preliminary; r=revised; e=estimated. *Indicates series shown in charts. (See page 10.)

defense indicators

TABLE

3

Intermediate and Final Indicators of Defense Activity--Continued

| Year and month | Defense Department personnel, DOD | | Defense Department net outlays, DOD | | | | |
|-----------------|--|---|--|----------------------|--|-------------------------|---------------------|
| | 677. Military, active duty, not seasonally adjusted* | 678. Civilian, direct hire employment, not seasonally adjusted* | 680. Total, military functions and military assistance | | | 681. Operations | |
| | | | Not seasonally adjusted | Seasonally adjusted* | Moving average of seasonally adjusted data--6-month* | Not seasonally adjusted | Seasonally adjusted |
| | | | | | | | |
| | (Thous.) | (Thous.) | (Mil. dol.) | (Mil. dol.) | (Mil. dol.) | (Mil. dol.) | (Mil. dol.) |
| 1976 | | | | | | | |
| January | 2,092 | 1,023 | 6,649 | 7,175 | 7,287 | 4,887 | 4,913 |
| February | 2,093 | 1,019 | 6,962 | 6,908 | 7,351 | 4,848 | 4,904 |
| March | 2,090 | 1,016 | 7,642 | 7,477 | 7,309 | 5,026 | 5,028 |
| April | 2,087 | 1,011 | 7,872 | 7,672 | 7,227 | 5,297 | 5,218 |
| May | 2,081 | 1,010 | 7,042 | 7,101 | 7,269 | 4,888 | 5,004 |
| June | 2,082 | 1,010 | 7,843 | 7,027 | 7,322 | 5,170 | 5,033 |
| July | 2,087 | 1,014 | 7,433 | 7,426 | 7,331 | 5,050 | 5,101 |
| August | 2,085 | 1,006 | 7,163 | 7,229 | 7,368 | 5,059 | 5,095 |
| September | 2,084 | 997 | 7,513 | 7,530 | 7,406 | 5,457 | 5,312 |
| October | 2,086 | 995 | 7,478 | 7,892 | 7,511 | 4,984 | 4,904 |
| November | 2,082 | 996 | 7,301 | 7,330 | 7,519 | 5,277 | 5,242 |
| December | 2,072 | 995 | 7,422 | 7,659 | 7,651 | 5,356 | 5,393 |
| 1977 | | | | | | | |
| January | 2,077 | 994 | 6,979 | 7,476 | 7,723 | 5,262 | 5,376 |
| February | 2,078 | 995 | 8,004 | 8,017 | 7,752 | 5,202 | 7,296 |
| March | 2,075 | 995 | 8,454 | 7,961 | 7,931 | 5,529 | 5,493 |
| April | 2,071 | 995 | 7,850 | 8,069 | 7,992 | 5,488 | 5,470 |
| May | 2,070 | 997 | 8,412 | 8,404 | 8,086 | 5,269 | 5,483 |
| June | 2,075 | 1,009 | 8,266 | 8,023 | 8,103 | 5,540 | 5,569 |
| July | 2,079 | 1,008 | 7,880 | 8,040 | 8,117 | 5,389 | 5,412 |
| August | 2,073 | 998 | 8,244 | 8,119 | 8,199 | 5,505 | 5,492 |
| September | 2,075 | 982 | 8,795 | 8,046 | 8,240 | 5,820 | 5,469 |
| October | 2,072 | 983 | 7,927 | 8,563 | 8,367 | 5,583 | 5,587 |
| November | 2,069 | 985 | 8,836 | 8,652 | 8,395 | r5,582 | r5,430 |
| December | 2,060 | 983 | 8,220 | 8,782 | 8,386 | 5,619 | 5,884 |
| 1978 | | | | | | | |
| January | 2,065 | 982 | 7,840 | 8,209 | 8,448 | 5,677 | 5,734 |
| February | r2,062 | 982 | 8,037 | 8,061 | p8,578 | 5,574 | 5,694 |
| March | r2,058 | (NA) | r9,168 | r8,419 | | r6,192 | r5,960 |
| April | p2,054 | | p8,820 | p9,343 | | p5,646 | p5,709 |
| May | | | | | | | |
| June | | | | | | | |
| July | | | | | | | |
| August | | | | | | | |
| September | | | | | | | |
| October | | | | | | | |
| November | | | | | | | |
| December | | | | | | | |

NA=not available; p=preliminary; r=revised; e=estimated. *Indicates series shown in charts. (See pages 10 and 11.)

Intermediate and Final Indicators of Defense Activity--Continued

| Year and month | Defense Department net outlays, DOD--Continued | | | 683. Budget outlays for the national defense function, Treasury | | 685. Defense Department personnel compensation, DOD | |
|-----------------|--|----------------------|--|---|--|---|----------------------|
| | 682. Procurement | | | Seasonally adjusted* | Moving average of seasonally adjusted data--6-month* | Not seasonally adjusted | Seasonally adjusted* |
| | Not seasonally adjusted | Seasonally adjusted* | Moving average of seasonally adjusted data--6-month* | | | | |
| | (Mil. dol.) | (Mil. dol.) | (Mil. dol.) | (Mil. dol.) | (Mil. dol.) | (Mil. dol.) | (Mil. dol.) |
| 1976 | | | | | | | |
| January | 1,363 | 1,301 | 1,257 | 7,385 | 7,402 | 3,018 | 2,907 |
| February | 1,227 | 1,253 | 1,307 | 6,363 | 7,425 | 2,820 | 2,804 |
| March | 1,195 | 1,157 | 1,308 | 7,643 | 7,312 | 2,887 | 2,866 |
| April | 1,792 | 1,677 | 1,316 | 7,693 | 7,226 | 2,845 | 2,861 |
| May | 1,092 | 1,178 | 1,327 | 7,016 | 7,263 | 2,851 | 2,889 |
| June | 1,418 | 1,331 | 1,304 | 7,255 | 7,474 | 3,007 | 3,036 |
| July | 1,347 | 1,365 | 1,350 | 7,610 | 7,479 | 2,963 | 2,960 |
| August | 1,063 | 1,114 | 1,294 | 7,628 | 7,558 | 2,962 | 2,962 |
| September | 1,356 | 1,432 | 1,353 | 7,671 | 7,622 | 2,978 | 2,997 |
| October | 1,337 | 1,344 | 1,397 | 8,170 | 7,716 | 3,026 | 3,037 |
| November | 1,502 | 1,534 | 1,428 | 7,400 | 7,717 | 3,020 | 2,978 |
| December | 1,745 | 1,591 | 1,507 | 7,817 | 7,779 | 3,097 | 3,088 |
| 1977 | | | | | | | |
| January | 1,524 | 1,553 | 1,510 | 7,618 | 7,837 | 3,034 | 2,951 |
| February | 1,570 | 1,590 | 1,541 | 7,996 | 7,852 | 2,886 | 2,951 |
| March | 1,511 | 1,445 | 1,525 | 8,021 | 8,060 | 3,137 | 3,118 |
| April | 1,558 | 1,534 | 1,506 | 8,261 | 8,120 | 3,008 | 3,063 |
| May | 1,324 | 1,438 | 1,531 | 8,648 | 8,244 | 3,084 | 3,087 |
| June | 1,643 | 1,478 | 1,520 | 8,178 | 8,255 | 3,112 | 3,143 |
| July | 1,572 | 1,699 | 1,521 | 8,357 | 8,291 | 3,054 | 3,082 |
| August | 1,521 | 1,527 | 1,518 | 8,064 | 8,392 | 3,146 | 3,109 |
| September | 1,372 | 1,448 | 1,600 | 8,235 | 8,410 | 3,108 | 3,136 |
| October | 1,512 | 1,515 | 1,595 | 8,867 | 8,523 | 3,170 | 3,180 |
| November | 1,877 | 1,930 | 1,574 | 8,757 | 8,519 | 3,240 | 3,208 |
| December | 1,579 | 1,450 | 1,555 | 8,860 | 8,600 | 3,235 | 3,219 |
| 1978 | | | | | | | |
| January | 1,538 | 1,576 | 1,592 | 8,332 | 8,885 | 3,275 | 3,183 |
| February | 1,394 | 1,410 | p1,612 | 8,548 | 8,919 | p3,140 | p3,240 |
| March | 1,789 | 1,674 | | 9,945 | | (NA) | (NA) |
| April | p1,579 | p1,635 | | 9,073 | | | |
| May | | | | | | | |
| June | | | | | | | |
| July | | | | | | | |
| August | | | | | | | |
| September | | | | | | | |
| October | | | | | | | |
| November | | | | | | | |
| December | | | | | | | |

NA=not available; p=preliminary; r=revised; e=estimated. *Indicates series shown in charts. (See page 11.)

defense indicators

TABLE

3

Intermediate and Final Indicators of Defense Activity--Continued

| Year and month | 688. Manufacturers' shipments, defense products, Census | | 689. Manufacturers' shipments to the U.S. Government, aerospace industries, Census, seasonally adjusted* | 691. Ratio, manufacturers' unfilled orders to shipments, defense products, Census | | 693. Ratio, manufacturers' inventories to shipments, defense products, Census | |
|-----------------|---|--|--|---|--|---|--|
| | Seasonally adjusted* | Moving average of seasonally adjusted data--5-month* | | Seasonally adjusted* | Moving average of seasonally adjusted data--5-month* | Seasonally adjusted* | Moving average of seasonally adjusted data--5-month* |
| | (Mil. dol.) | (Mil. dol.) | (Mil. dol.) | (Ratio) | (Ratio) | (Ratio) | (Ratio) |
| 1976 | | | | | | | |
| January | 2,147 | 2,098 | ... | 13.3 | 13.8 | 2.8 | 2.9 |
| February | 2,165 | 2,121 | 4,544 | 13.1 | 13.7 | 2.8 | 2.9 |
| March | 2,168 | 2,175 | ... | 13.4 | 13.4 | 2.9 | 2.9 |
| April | 2,189 | 2,168 | ... | 13.6 | 13.5 | 2.9 | 2.9 |
| May | 2,208 | 2,166 | 4,952 | 13.4 | 13.7 | 2.9 | 2.9 |
| June | 2,112 | 2,183 | ... | 14.1 | 13.6 | 3.0 | 2.9 |
| July | 2,155 | 2,185 | ... | 13.9 | 13.6 | 3.0 | 2.9 |
| August | 2,253 | 2,203 | 4,587 | 13.1 | 13.5 | 2.9 | 2.9 |
| September | 2,195 | 2,238 | ... | 13.4 | 13.4 | 2.9 | 2.9 |
| October | 2,298 | 2,294 | ... | 13.0 | 13.2 | 2.8 | 2.8 |
| November | 2,288 | 2,373 | 4,983 | 13.4 | 13.0 | 2.9 | 2.7 |
| December | 2,436 | 2,459 | ... | 13.2 | 12.7 | 2.6 | 2.6 |
| 1977 | | | | | | | |
| January | 2,650 | 2,530 | ... | 11.9 | 12.4 | 2.4 | 2.5 |
| February | 2,623 | 2,571 | 5,191 | 11.8 | 12.2 | 2.4 | 2.5 |
| March | 2,651 | 2,606 | ... | 11.6 | 12.0 | 2.4 | 2.4 |
| April | 2,495 | 2,607 | ... | 12.7 | 12.1 | 2.5 | 2.4 |
| May | 2,611 | 2,611 | 4,971 | 12.2 | 12.1 | 2.4 | 2.4 |
| June | 2,653 | 2,589 | ... | 12.0 | 12.2 | 2.4 | 2.4 |
| July | 2,645 | 2,622 | ... | 11.8 | 12.0 | 2.4 | 2.4 |
| August | 2,541 | 2,622 | 5,001 | 12.3 | 12.0 | 2.5 | 2.4 |
| September | 2,662 | 2,628 | ... | 11.5 | 12.1 | 2.4 | 2.4 |
| October | 2,608 | 2,636 | ... | 12.5 | 12.3 | 2.4 | 2.4 |
| November | 2,686 | 2,663 | p5,095 | 12.4 | 12.5 | 2.3 | 2.4 |
| December | 2,683 | 2,685 | ... | 13.0 | r12.7 | 2.4 | 2.4 |
| 1978 | | | | | | | |
| January | 2,678 | r2,740 | ... | r13.1 | r12.8 | 2.4 | 2.4 |
| February | 2,769 | p2,803 | (NA) | r12.7 | p12.8 | 2.4 | (NA) |
| March | r2,883 | | | r12.7 | | 2.3 | |
| April | p3,004 | | | p12.5 | | (NA) | |
| May | | | | | | | |
| June | | | | | | | |
| July | | | | | | | |
| August | | | | | | | |
| September | | | | | | | |
| October | | | | | | | |
| November | | | | | | | |
| December | | | | | | | |

NA=not available; p=preliminary; r=revised; e=estimated. *Indicates series shown in charts. (See page 12.)

Defense-Related Balance of Payments Components

| Year and quarter | 546. Transfers under U.S. military agency sales contracts (exports), BEA ¹ | | 547. Direct defense expenditures (imports), BEA, not seasonally adjusted* | 696. U.S. Government cash receipts associated with military sales contracts, BEA ² | |
|--------------------------|---|----------------------|---|---|----------------------|
| | Not seasonally adjusted | Seasonally adjusted* | | Not seasonally* adjusted | Seasonally adjusted* |
| | (Mil. dol.) | (Mil. dol.) | (Mil. dol.) | (Mil. dol.) | (Mil. dol.) |
| 1974 | | | | | |
| First quarter | 644 | 638 | 1,153 | 497 | 546 |
| Second quarter | 738 | 683 | 1,298 | 642 | 650 |
| Third quarter | 720 | 781 | 1,265 | 995 | 990 |
| Fourth quarter | 850 | 850 | 1,319 | 808 | 756 |
| 1975 | | | | | |
| First quarter | 946 | 924 | 1,317 | 1,050 | (NA) |
| Second quarter | 888 | 874 | 1,185 | 1,013 | |
| Third quarter | 902 | 957 | 1,096 | 1,148 | |
| Fourth quarter | 1,183 | 1,164 | 1,198 | 1,376 | |
| 1976 | | | | | |
| First quarter | 1,132 | 1,095 | 1,160 | 2,246 | |
| Second quarter | 1,193 | 1,189 | 1,228 | 1,858 | |
| Third quarter | 1,403 | 1,472 | 1,237 | 2,041 | |
| Fourth quarter | 1,486 | 1,457 | 1,222 | 2,068 | |
| 1977 | | | | | |
| First quarter | 1,912 | 1,843 | 1,329 | 1,992 | |
| Second quarter | 1,702 | 1,712 | 1,403 | 1,883 | |
| Third quarter | 1,918 | 2,005 | 1,446 | 1,955 | |
| Fourth quarter | pl,547 | pl,519 | pl,469 | pl,806 | |
| 1978 | | | | | |
| First quarter | (NA) | (NA) | (NA) | (NA) | |
| Second quarter | | | | | |
| Third quarter | | | | | |
| Fourth quarter | | | | | |

NA=not available; p=preliminary; r=revised; e=estimated. *Indicates series shown in charts. (See page 13.)

¹Includes deliveries for which Israel has been released from its contractual liability to pay.

²Excludes funds made available to release Israel from its contractual liability to pay for defense articles and services purchased through military sales contracts. Quarterly expenditures for such purpose under Public Law 93-199 and subsequent legislation amounted to (in millions): 1974, IIQ, \$623; IIIQ, \$223; IVQ, \$91; 1975, IQ, \$187; IIQ, \$124; IIIQ, \$83; IVQ, \$242; 1976, IQ, \$16; IIQ, \$100; IIIQ, \$743; IVQ, \$5; 1977, IQ, \$138; IIQ, \$245; IIIQ, \$117; IVQ, \$0.

Appendix A. SEASONAL ADJUSTMENT FACTORS

| Series title | 1977 | | | | | | 1978 | | | | | |
|--|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | July | Aug. | Sept. | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June |
| MONTHLY SERIES | | | | | | | | | | | | |
| Defense Department gross obligations incurred: | | | | | | | | | | | | |
| 617. Total ¹ | 87.7 | 83.6 | 127.3 | 129.1 | 108.8 | 99.4 | 100.3 | 89.6 | 92.4 | 100.6 | 83.8 | 97.0 |
| 619. Operations ¹ | 101.7 | 87.9 | 118.4 | 124.9 | 98.1 | 92.2 | 108.1 | 90.0 | 91.2 | 105.8 | 87.2 | 94.2 |
| 621. Procurement | 63.9 | 67.6 | 144.5 | 106.0 | 106.5 | 112.2 | 96.9 | 94.1 | 97.7 | 119.5 | 87.7 | 99.4 |
| 623. Gross obligations incurred outside the Federal Government for national defense ¹ | 92.3 | 88.4 | 123.0 | 116.4 | 103.8 | 97.3 | 95.0 | 95.9 | 98.2 | 104.4 | 80.8 | 104.6 |
| 625. Defense Department military prime contract awards for work performed in the United States | 79.9 | 81.1 | 173.2 | 128.8 | 111.6 | 95.7 | 100.0 | 84.0 | 89.2 | 94.4 | 81.3 | 77.2 |
| Defense Department gross unpaid obligations outstanding: ² | | | | | | | | | | | | |
| 643. Total | 95.3 | 92.4 | 95.3 | 101.3 | 103.5 | 104.0 | 105.0 | 103.6 | 101.1 | 102.1 | 98.6 | 98.0 |
| 644. Operations | 95.1 | 85.5 | 90.7 | 102.6 | 107.6 | 104.7 | 111.6 | 106.8 | 100.6 | 104.5 | 96.8 | 93.1 |
| 645. Procurement | 98.7 | 98.4 | 99.6 | 100.8 | 101.4 | 100.8 | 101.5 | 101.4 | 101.7 | 99.9 | 96.6 | 100.1 |
| 648. Manufacturers' new orders, defense products ³ | 186.8 | 94.1 | 102.5 | 106.9 | 83.8 | 101.0 | 108.0 | 93.7 | 97.3 | 82.5 | 65.3 | 117.1 |
| 653. Average weekly overtime hours, production workers, defense products industries ⁴ | -2 | .1 | .2 | .2 | .2 | .4 | -1 | -1 | -2 | -4 | -2 | .0 |
| 654. Accession rate, defense products industries ⁴ | .2 | .4 | .3 | .1 | -3 | -8 | -1 | -2 | -1 | -2 | .1 | .6 |
| 655. Layoff rate, defense products industries ⁴ | -1 | -1 | -1 | .0 | -1 | -2 | .1 | .1 | .3 | .0 | .0 | .0 |
| 657. Output of defense and space equipment ³ | 98.5 | 98.2 | 99.6 | 100.0 | 101.0 | 102.3 | 100.3 | 100.3 | 100.4 | 99.1 | 99.6 | 100.3 |
| 659. Manufacturers' inventories, defense products ³ | 100.1 | 100.3 | 100.3 | 100.3 | 100.9 | 100.4 | 98.5 | 100.1 | 101.1 | 100.7 | 99.8 | 100.4 |
| 661. Manufacturers' unfilled orders, defense products ³ | 101.4 | 101.2 | 100.9 | 101.5 | 100.0 | 99.9 | 101.2 | 100.9 | 100.6 | 99.1 | 96.2 | 97.4 |
| Employment in defense products industries: | | | | | | | | | | | | |
| 670. Total | 99.2 | 99.3 | 100.4 | 100.6 | 100.8 | 100.9 | 100.5 | 100.0 | 99.5 | 99.6 | 99.3 | 99.8 |
| 671. Production workers | 98.7 | 98.5 | 100.4 | 100.9 | 101.3 | 101.4 | 101.1 | 100.0 | 99.3 | 99.4 | 99.2 | 99.8 |
| 673. Index of aggregate weekly hours, defense products industries | 98.3 | 99.0 | 100.6 | 100.6 | 101.5 | 102.1 | 100.3 | 100.1 | 99.7 | 98.8 | 99.6 | 100.0 |
| 675. Index of aggregate weekly payrolls, production workers, defense products industries | 96.2 | 97.4 | 100.7 | 101.4 | 102.8 | 104.9 | 101.0 | 100.6 | 99.6 | 96.7 | 99.2 | 99.5 |
| Defense Department net outlays: | | | | | | | | | | | | |
| 680. Total, military functions and military assistance ¹ | 98.0 | 101.5 | 109.3 | 92.6 | 102.1 | 99.5 | 94.1 | 99.7 | 100.5 | 101.8 | 103.0 | 99.7 |
| 681. Operations ¹ | 99.6 | 100.2 | 106.4 | 99.9 | 102.8 | 95.5 | 99.0 | 97.9 | 103.9 | 98.9 | 97.3 | 99.5 |
| 682. Procurement ¹ | 92.5 | 99.6 | 94.8 | 99.9 | 97.3 | 108.9 | 97.6 | 98.9 | 106.9 | 96.6 | 95.9 | 111.2 |
| 683. Budget outlays for the national defense function ¹ | 95.8 | 104.3 | 109.0 | 91.2 | 102.5 | 95.0 | 95.7 | 101.5 | 107.6 | 93.6 | 100.3 | 103.8 |
| 685. Defense Department personnel compensation ¹ | 99.1 | 101.2 | 99.1 | 99.7 | 101.0 | 100.5 | 102.9 | 96.9 | 100.5 | 96.5 | 100.6 | 99.3 |
| 688. Manufacturers' shipments, defense products ³ | 94.8 | 97.4 | 106.1 | 101.4 | 96.3 | 103.8 | 87.6 | 97.6 | 100.4 | 98.5 | 100.5 | 105.4 |
| QUARTERLY SERIES | | | | | | | | | | | | |
| | IIIQ | | | IVQ | | | IQ | | | IIQ | | |
| 200. Gross national product ³ | 98.9 | | | 105.1 | | | 95.9 | | | 99.9 | | |
| 264. Fed. Govt. purchases of goods and services, national defense ³ | 97.7 | | | 101.4 | | | 98.3 | | | 102.8 | | |
| 546. Transfers under U.S. military agency sales contracts—exports ⁵ | -69 | | | 29 | | | 37 | | | 4 | | |
| Defense Department military prime contract awards: | | | | | | | | | | | | |
| 626. Aircraft | 81.4 | | | 122.4 | | | 96.6 | | | 100.5 | | |
| 627. Missile and space systems | 77.6 | | | 160.9 | | | 91.4 | | | 70.3 | | |
| 629. Weapons and ammunition | 176.0 | | | 47.8 | | | 84.9 | | | 96.2 | | |
| 630. Electronic and communications equipment | 125.5 | | | 93.7 | | | 93.5 | | | 88.0 | | |
| 631. Combat vehicles | 139.8 | | | 112.9 | | | 71.6 | | | 63.7 | | |
| 632. Other hard goods | 137.3 | | | 81.5 | | | 88.2 | | | 92.0 | | |
| 633. Soft goods | 65.2 | | | 149.3 | | | 107.5 | | | 69.0 | | |
| 634. Construction | 230.6 | | | 54.7 | | | 56.2 | | | 66.5 | | |
| 635. Services | 108.9 | | | 121.5 | | | 98.6 | | | 69.5 | | |
| 636. Under \$10,000 | 124.1 | | | 80.9 | | | 98.9 | | | 96.9 | | |
| 637. Educational and nonprofit institutions | 79.4 | | | 159.4 | | | 96.9 | | | 65.5 | | |
| 640. Outside U.S. | 107.7 | | | 140.0 | | | 100.0 | | | 54.7 | | |
| Aerospace industries: | | | | | | | | | | | | |
| 650. Manufacturers' new orders from the U.S. Government | 122.9 | | | 105.5 | | | 86.6 | | | 85.1 | | |
| 664. Manufacturers' unfilled orders from the U.S. Government | 100.5 | | | 101.1 | | | 100.8 | | | 97.6 | | |
| 689. Manufacturers' shipments to the U.S. Government | 99.3 | | | 102.2 | | | 95.4 | | | 103.0 | | |

NOTE: The seasonal adjustment factors presented in this table were computed using the techniques described in the Bureau of the Census Technical Paper No. 15, *The X-11 Variant of the Census Method II Seasonal Adjustment Program*.

Monthly data for Defense Department military prime contract awards by commodity category (series 626 to 640) have not been adjusted for seasonal variation. The series on direct defense expenditures—imports (series 547), Defense Department progress payments outstanding (series 666), and Defense Department personnel (series 677 and 678) contain no measurable seasonal variation.

¹ Factors are products of seasonal and trading-day factors.

² Prior to 1972, data for gross unpaid obligations outstanding are not available for a number

of months but these gaps were filled with averages of preceding and following months for purposes of estimating seasonal variation.

³ These series have been adjusted by the source agencies. The factors shown here are implicit seasonal factors for the calendar year 1976 and are derived by dividing the seasonally unadjusted data by the seasonally adjusted data.

⁴ These series have been seasonally adjusted using the additive version of the seasonal adjustment program. Seasonally adjusted data are derived by subtracting the adjustment factor from the unadjusted data. Seasonally adjusted data for other series are derived by dividing the seasonal factors into the unadjusted data.

⁵ This series is the total of component series which have been adjusted separately by the source agency. The factors shown here are implicit seasonal factors for the calendar year 1976 and are derived by subtracting the seasonally adjusted data from the seasonally unadjusted data.

Appendix B. AVERAGE CHANGES AND RELATED MEASURES OF VARIABILITY

Part 1. Monthly Series

| Series title | Period covered | \bar{O} | \bar{CI} | \bar{T} | \bar{C} | $\bar{T/C}$ | MCD | Average duration of run (ADR) | |
|---|-------------------------|-----------|------------|-----------|-----------|-------------|-----|-------------------------------|------|
| | | | | | | | | CI | MCD |
| Defense Department gross obligations incurred: | | | | | | | | | |
| 617. Total | Jan. '57-Jan. '76 . . . | 18.28 | 6.98 | 6.89 | 0.72 | 9.53 | 6 | 1.53 | 2.30 |
| 619. Operations | July '59-Jan. '76 . . . | 8.98 | 2.77 | 2.66 | .65 | 4.09 | 4 | 1.69 | 3.00 |
| 621. Procurement | Jan. '57-Jan. '76 . . . | 44.28 | 22.39 | 22.27 | 1.54 | 14.44 | 6 | 1.46 | 2.08 |
| 623. Gross obligations incurred outside the Federal Government for national defense | July '63-Sept. '75 . . | 14.17 | 7.92 | 7.82 | .73 | 10.72 | 6 | 1.52 | 2.61 |
| 625. Defense Department military prime contract awards for work performed in the United States, total | Jan. '57-Jan. '76 . . . | 32.78 | 15.55 | 15.41 | 1.35 | 11.42 | 6 | 1.42 | 2.05 |
| Defense Department gross unpaid obligations outstanding: | | | | | | | | | |
| 643. Total | Jan. '57-Jan. '76 . . . | 2.13 | 1.32 | .95 | .88 | 1.08 | 2 | 2.65 | 3.98 |
| 644. Operations | Jan. '67-Jan. '76 . . . | 5.59 | 2.68 | 2.37 | 1.13 | 2.10 | 3 | 1.96 | 5.05 |
| 645. Procurement | Jan. '67-Jan. '76 . . . | 2.19 | 1.52 | 1.07 | .94 | 1.14 | 2 | 2.08 | 4.12 |
| Manufacturers' new orders: | | | | | | | | | |
| 647. Defense products industries | Jan. '57-Mar. '72 . . . | (NA) | 15.11 | 14.89 | .97 | 15.32 | 6 | 1.58 | 2.33 |
| 648. Defense products | Feb. '68-Jan. '76 . . . | (NA) | 21.50 | 21.43 | 1.47 | 14.59 | 6 | 1.56 | 1.80 |
| *653. Average weekly overtime hours, production workers, defense products industries (hours) | Jan. '58-Jan. '76 . . . | .22 | .11 | .11 | .03 | 3.14 | 4 | 2.50 | 3.70 |
| *654. Accession rate, defense products industries (per 100 employees) | Jan. '58-Jan. '76 . . . | .38 | .16 | .15 | .05 | 3.12 | 4 | 2.16 | 4.18 |
| *655. Layoff rate, defense products industries (per 100 employees) | Jan. '58-Jan. '76 . . . | .17 | .14 | .13 | .04 | 3.14 | 4 | 1.93 | 4.18 |
| 657. Output of defense and space equipment | Jan. '57-Jan. '76 . . . | (NA) | .96 | .50 | .75 | .67 | 1 | 3.40 | 3.40 |
| Manufacturers' inventories: | | | | | | | | | |
| 658. Defense products industries | Jan. '57-Mar. '72 . . . | (NA) | 1.04 | .52 | .85 | .62 | 1 | 2.80 | 2.80 |
| 659. Defense products | Jan. '68-Jan. '76 . . . | (NA) | 1.75 | 1.13 | 1.29 | .88 | 1 | 3.10 | 3.10 |
| Manufacturers' unfilled orders: | | | | | | | | | |
| 660. Defense products industries | Jan. '57-Mar. '72 . . . | (NA) | 1.23 | .90 | .83 | 1.09 | 2 | 2.76 | 3.42 |
| 661. Defense products | Jan. '68-Jan. '76 . . . | (NA) | 1.51 | 1.18 | .93 | 1.27 | 2 | 2.04 | 4.13 |
| Employment in defense products industries: | | | | | | | | | |
| 670. Total | Jan. '58-Jan. '76 . . . | .76 | .70 | .29 | .59 | .50 | 1 | 4.91 | 4.91 |
| 671. Production workers | Jan. '58-Jan. '76 . . . | 1.08 | .93 | .51 | .70 | .73 | 1 | 3.72 | 3.72 |
| 673. Index of aggregate weekly hours, defense products industries | Jan. '58-Jan. '76 . . . | .95 | .76 | .39 | .60 | .65 | 1 | 4.00 | 4.00 |
| 675. Index of aggregate weekly payrolls, production workers, defense products industries | Jan. '58-Jan. '76 . . . | 1.72 | 1.14 | .75 | .78 | .96 | 1 | 2.92 | 2.92 |
| Defense Department personnel: | | | | | | | | | |
| 677. Military, active duty ^(U) | Jan. '57-Jan. '76 . . . | .62 | (NA) | .27 | .55 | .48 | 1 | 3.86 | 3.86 |
| 678. Civilian, direct hire employment ^(U) | Jan. '57-Jan. '76 . . . | .55 | (NA) | .34 | .42 | .81 | 1 | 4.30 | 4.30 |
| Defense Department net outlays: | | | | | | | | | |
| 680. Total, military functions and military assistance | Jan. '57-Jan. '76 . . . | 8.89 | 4.31 | 4.19 | .77 | 5.42 | 6 | 1.70 | 3.10 |
| 681. Operations | July '59-Jan. '76 . . . | 7.07 | 3.62 | 3.41 | .73 | 4.69 | 5 | 1.58 | 2.34 |
| 682. Procurement | Jan. '57-Jan. '76 . . . | 15.10 | 11.77 | 11.65 | 1.59 | 7.32 | 6 | 1.57 | 2.90 |
| 683. Budget outlays for the national defense function | Jan. '57-Jan. '76 . . . | 8.87 | 4.27 | 4.18 | .73 | 5.73 | 6 | 1.58 | 2.97 |
| 685. Defense Department personnel compensation | Jan. '67-Jan. '76 . . . | 2.70 | 1.33 | 1.13 | .49 | 2.32 | 4 | 2.57 | 4.38 |
| Manufacturers' shipments: | | | | | | | | | |
| 687. Defense products industries | Jan. '57-Mar. '72 . . . | (NA) | 2.67 | 2.49 | .87 | 2.85 | 3 | 1.64 | 3.40 |
| 688. Defense products | Jan. '68-Jan. '76 . . . | (NA) | 4.40 | 4.34 | .98 | 4.41 | 5 | 1.57 | 2.71 |
| Ratio, manufacturers' unfilled orders to shipments: | | | | | | | | | |
| 690. Defense products industries | Jan. '57-Mar. '72 . . . | (NA) | 2.95 | 2.71 | .96 | 2.82 | 4 | 1.90 | 3.81 |
| 691. Defense products | Jan. '68-Jan. '76 . . . | (NA) | 4.93 | 4.81 | 1.01 | 4.77 | 5 | 1.69 | 2.85 |
| Ratio, manufacturers' inventories to shipments: | | | | | | | | | |
| 692. Defense products industries | Jan. '57-Mar. '72 . . . | (NA) | 2.84 | 2.90 | .72 | 4.01 | 5 | 2.46 | 5.74 |
| 693. Defense products | Jan. '68-Jan. '76 . . . | (NA) | 5.29 | 5.18 | 1.13 | 4.57 | 5 | 1.96 | 3.07 |

NA = not available.

*Measures for these series are based on actual changes rather than percent changes (see definition below). ^(U) indicates measures are based on unadjusted data.

BRIEF DEFINITIONS OF MEASURES SHOWN IN PART 1

The measures in this appendix provide a historical perspective for interpreting current changes in each series. They are derived using the Census X-11 seasonal adjustment program. Brief definitions of the measures are given below; more complete definitions appear in *Electronic Computers and Business Indicators* by Julius Shiskin, issued as Occasional Paper 57 by the National Bureau of Economic Research, 1957 (reprinted from *Journal of Business*, October 1957).

" \bar{O} " is the average month-to-month percent change, without regard to sign, in the original unadjusted series. (See final paragraph below for exceptions to these definitions.)

" \bar{CI} " is the same for the seasonally adjusted series.

" \bar{C} " is the same for the short-term trend, which is a smooth, flexible moving average of the seasonally adjusted series.

" \bar{T} " is the same for the irregular component, which is obtained by dividing the seasonally adjusted series by the short-term trend.

" $\bar{T/C}$ " measures the relative smoothness (small values) or irregularity (large values) of the seasonally adjusted series. It is the ratio of the average monthly percent change (without regard to sign) in the irregular component to the average monthly percent change (without regard to sign) in the short-term trend.

"MCD" (months for cyclical dominance) estimates the number of months required for the short-term trend to dominate the irregular component. Average percent changes are computed for spans of from 1 to 12 months for both the irregular component and the short-term trend. MCD is the shortest span of months for which the average percent change (without regard to sign) in the short-term trend is greater than that in the irregular component. All MCD's greater than "5" are shown as "6".

Appendix B. AVERAGE CHANGES AND RELATED MEASURES OF VARIABILITY—Continued

"Average Duration of Run" (ADR) is another measure of smoothness and is equal to the average number of consecutive monthly changes in the same direction in any series of observations. When there is no change between two observations, a change in the same direction as the preceding change is assumed. The ADR is shown for the seasonally adjusted series (CI) and the MCD curve, which is a moving average (with the number of terms equal to MCD) of the seasonally adjusted series. A comparison of these measures with the expected ADR of a random series indicates whether the changes approximate those of a random series. In a random series, the expected ADR is 1.5 and the actual values fall between 1.36 and 1.75 about 95 percent of the time. For a moving average of a random series, the expected ADR is 2.

Measures for series identified with an asterisk (*) are computed by an additive method. This method is used for series with zero or negative data, series which could approach zero, and series expressed in percent. In this method, the measures are defined the same as above except for two differences: (1) the measures are based on actual month-to-month changes (rather than percent changes) and (2) the irregular component is obtained by subtracting the short-term trend from the seasonally adjusted series. The average changes shown above for the components of such a series are in the same unit of measure as the series itself. The unit is indicated in the series title.

Part 2. Quarterly Series

| Series title | Period covered | \bar{O} | \bar{CI} | \bar{I} | \bar{C} | $\bar{I/C}$ | QCD | Average duration of run (ADR) | |
|---|------------------------|-----------|------------|-----------|-----------|-------------|-----|-------------------------------|------|
| | | | | | | | | CI | QCD |
| 200. Gross national product | IQ '57-IVQ '75 | (NA) | 1.84 | 0.35 | 1.76 | 0.20 | 1 | 8.33 | 8.33 |
| 264. Federal Government purchases of goods and services, national defense . . . | IQ '57-IVQ '75 | (NA) | 1.95 | .79 | 1.70 | .46 | 1 | 3.26 | 3.26 |
| *546. Transfers under U.S. military agency sales contracts—exports (mil. dol.) . . | IQ '60-IVQ '75 | 79.21 | 65.13 | 48.28 | 34.19 | 1.41 | 2 | 1.70 | 2.30 |
| *547. Direct defense expenditures—imports (mil. dol.) \textcircled{u} | IQ '60-IVQ '75 | 42.32 | (NA) | 36.13 | 24.65 | 1.47 | 2 | 1.66 | 2.82 |
| *613. National defense purchases as a percent of GNP (percent) | IQ '57-IVQ '75 | (NA) | .16 | .07 | .15 | .46 | 1 | 5.36 | 5.36 |
| 650. Manufacturers' new orders from the U.S. Government, aerospace industries | IQ '61-IVQ '75 | 24.44 | 17.96 | 14.82 | 5.85 | 2.53 | 3 | 1.44 | 1.73 |
| 664. Manufacturers' unfilled orders from the U.S. Government, aerospace industries | IQ '61-IVQ '75 | 4.55 | 3.91 | 2.44 | 2.68 | .91 | 1 | 2.27 | 2.27 |
| 666. Defense Department progress payments outstanding \textcircled{u} | IQ '57-IVQ '75 | 4.80 | (NA) | 2.06 | 4.35 | .47 | 1 | 2.78 | 2.78 |
| 689. Manufacturers' shipments to the U.S. Government, aerospace industries . . | IQ '61-IVQ '75 | 7.04 | 4.27 | 3.43 | 2.11 | 1.62 | 2 | 1.84 | 2.76 |
| *696. U.S. Government cash receipts associated with military sales contracts (million dollars). | IQ '60-IVQ '75 | 107.60 | 83.62 | 61.48 | 45.74 | 1.34 | 2 | 1.57 | 2.82 |

NA = not available.

*Measures for these series are based on actual changes rather than percent changes (see definition below). \textcircled{u} indicates measures are based on unadjusted data.

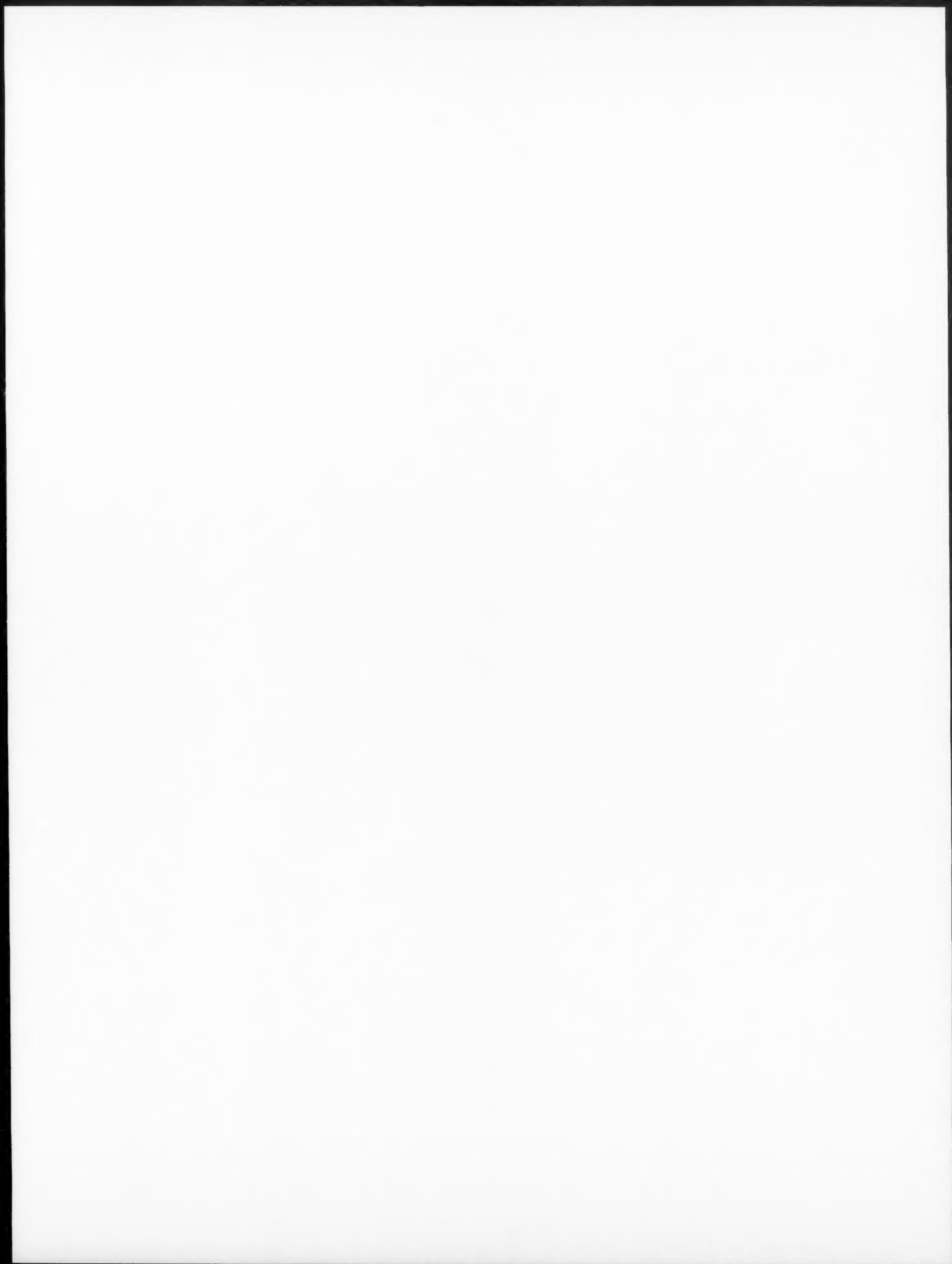
BRIEF DEFINITIONS OF MEASURES SHOWN IN PART 2

These measures are defined the same as those in part 1 except that they are based on quarter-to-quarter percent changes. For example, \bar{CI} is the average quarter-to-quarter percent change (without regard to sign) in the seasonally adjusted series.

In deriving "QCD" (quarters for cyclical dominance), average percent changes are computed for spans of from one to four quarters for the irregular component and the short-term trend. QCD is the shortest span of quarters for

which the average percent change (without regard to sign) in the short-term trend is greater than that in the irregular component. All QCD's greater than "3" are shown as "4". The "Average Duration of Run" (ADR) measures are also expressed in quarters.

As in part 1, measures for series identified with an asterisk (*) are computed by an additive method. This method is the same as that used for the monthly series except for the use of quarterly data rather than monthly.





ALPHABETICAL INDEX—SERIES FINDING GUIDE

| Series title | Series number | Current issue (page numbers) | | Historical data (issue date) | Series descriptions (issue date) | Series title | Series number | Current issue (page numbers) | | Historical data (issue date) | Series descriptions (issue date) |
|--|---------------|--|--------|------------------------------|----------------------------------|--|---------------|------------------------------|--------|------------------------------|----------------------------------|
| | | Charts | Tables | | | | | Charts | Tables | | |
| Accession rate, defense products industries | 654 | 8 | 21 | 10/77 | 4/73 | Hours, defense products industries | 673 | 10 | 23 | 10/77 | 4/73 |
| Aerospace industries | | | | | | Inventories, manufacturers' | | | | | |
| Manufacturers' new orders from U.S. Government .. | 650 | See New orders. | | | | Defense products | 659 | 9 | 22 | 2/77 | 2/73 |
| Manufacturers' shipments to U.S. Government | 689 | See Shipments. | | | | Defense products industries | 658 | 9 | ... | 1/72 | 2/73 |
| Manufacturers' unfilled orders from U.S. Government | 664 | See Unfilled orders. | | | | Ratio to shipments, defense products | 693 | 12 | 26 | 2/77 | 2/73 |
| | | | | | | Ratio to shipments, defense products industries | 692 | 12 | ... | 11/72 | 2/73 |
| Balance of payments (defense-related) | | | | | | Layoff rate, defense products industries | 655 | 8 | 21 | 10/77 | 4/73 |
| Cash receipts associated with military sales contracts | 686 | 13 | 27 | 10/77 | 10/73 | Military personnel, Defense Department | 677 | 10 | 24 | 9/76 | 8/68 |
| Direct defense expenditures | 547 | 13 | 27 | 10/77 | 10/73 | Military prime contract awards—See Contract awards. | | | | | |
| Transfers under military agency sales contracts | 546 | 13 | 27 | 10/77 | 10/73 | | | | | | |
| Budget outlays for national defense function | 683 | See Outlays. | | | | Net outlays, Defense Department—See Outlays. | | | | | |
| | | | | | | New orders, manufacturers' | | | | | |
| Cash receipts associated with military sales contracts | 696 | See Balance of payments. | | | | Defense products | 648 | 7 | 20 | 2/77 | 2/73 |
| Civilian personnel, Defense Department | 678 | 10 | 24 | 9/76 | 8/68 | Defense products industries | 647 | 7 | ... | 11/72 | 2/73 |
| Compensation | | | | | | From Government, aerospace industries | 650 | 8 | 20 | 10/77 | 2/73 |
| Payrolls, aggregate weekly, defense products industries | 675 | 10 | 23 | 10/77 | 4/73 | Obligations incurred, gross | | | | | |
| Personnel compensation, Defense Department | 685 | 11 | 25 | 7/76 | 8/68 | Defense Department, operations | 619 | ... | 15 | 11/77 | 8/68 |
| Contract awards, military prime | | | | | | Defense Department, procurement | 621 | 6 | 15 | 11/77 | 8/68 |
| Aircraft | 626 | ... | 16 | 10/76 | 8/68 | Defense Department, total | 617 | 6 | 15 | 11/77 | 8/68 |
| Civilian Health and Medical Program | 638 | ... | 19 | 10/76 | 8/68 | Outside Government for national defense | 623 | 6 | 16 | 11/77 | 10/73 |
| Combat vehicles | 631 | ... | 17 | 10/76 | 8/68 | Obligations outstanding, gross unpaid | | | | | |
| Construction | 634 | ... | 18 | 10/76 | 8/68 | Defense Department, operations | 644 | ... | 20 | 12/77 | 8/68 |
| Contracts under \$10,000 | 636 | ... | 19 | 10/76 | 8/68 | Defense Department, procurement | 645 | ... | 20 | 12/77 | 8/68 |
| Educational and nonprofit institutions | 637 | ... | 19 | 10/76 | 8/68 | Defense Department, total | 643 | 7 | 20 | 12/77 | 8/68 |
| Electronic and communications equipment | 630 | ... | 17 | 10/76 | 8/68 | Operations, Defense Department | | | | | |
| Missile and space systems | 627 | ... | 16 | 10/76 | 8/68 | Net outlays | 681 | See Outlays. | | | |
| Other hard goods | 632 | ... | 18 | 10/76 | 8/68 | Obligations incurred | 619 | See Obligations incurred. | | | |
| Services | 635 | ... | 18 | 10/76 | 8/68 | Unpaid obligations outstanding | 644 | See Obligations outstanding. | | | |
| Ships | 628 | ... | 17 | 10/76 | 8/68 | Orders—See New orders and Unfilled orders. | | | | | |
| Soft goods | 633 | ... | 18 | 10/76 | 8/68 | Outlays | | | | | |
| Total | 625 | 7 | 16 | 10/76 | 8/68 | Budget outlays for national defense function | 683 | 11 | 25 | 11/77 | 10/73 |
| Weapons and ammunition | 629 | ... | 17 | 10/76 | 8/68 | Defense Department, operations | 681 | ... | 24 | 12/77 | 8/68 |
| Work outside the United States | 640 | ... | 19 | 10/76 | 8/68 | Defense Department, procurement | 682 | 11 | 25 | 12/77 | 8/68 |
| | | | | | | Defense Department, total | 680 | 11 | 24 | 12/77 | 8/68 |
| Defense and space equipment, output | 657 | See Output of defense and space equipment. | | | | Output of defense and space equipment | 657 | 9 | 22 | 10/77 | 10/73 |
| Defense Department | | | | | | Overtime hours, defense products industries | 653 | 8 | 21 | 10/77 | 4/73 |
| Gross obligations incurred—See Obligations incurred. | | | | | | | | | | | |
| Gross unpaid obligations outstanding—See Obligations outstanding. | | | | | | Payrolls, aggregate weekly, defense products industries .. | 675 | See Compensation. | | | |
| Military prime contract awards—See Contract awards. | | | | | | Personnel compensation, Defense Department | 685 | | | | |
| Net outlays—See Outlays. | | | | | | Personnel—See Civilian personnel and Military personnel. | | | | | |
| Personnel compensation | 685 | See Compensation. | | | | Procurement, Defense Department | | | | | |
| Personnel—See Civilian personnel and Military personnel. | | | | | | Net outlays | 682 | See Outlays. | | | |
| Progress payments outstanding | 666 | See Progress payments. | | | | Obligations incurred | 621 | See Obligations incurred. | | | |
| Direct defense expenditures | 547 | See Balance of payments. | | | | Unpaid obligations outstanding | 645 | See Obligations outstanding. | | | |
| | | | | | | Progress payments outstanding, Defense Department | 666 | 9 | 22 | 10/77 | 8/68 |
| Employment | | | | | | Purchases of goods and services for national defense | 264 | See Gross national product. | | | |
| Accession rate, defense products industries | 654 | See Accession rate. | | | | | | | | | |
| Employment, production workers, defense products industries | 671 | 10 | 23 | 10/77 | 4/73 | Shipments, manufacturers' | | | | | |
| Employment, total, defense products industries | 670 | 10 | 22 | 10/77 | 4/73 | Defense products | 688 | 12 | 26 | 2/77 | 2/73 |
| Hours, defense products industries | 673 | See Hours. | | | | Defense products industries | 687 | 12 | ... | 11/72 | 2/73 |
| Layoff rate, defense products industries | 653 | See Layoff rate. | | | | Ratio, inventories to shipments, defense products .. | 693 | See Inventories. | | | |
| Overtime hours, defense products industries | 653 | See Overtime hours. | | | | Ratio, inventories to shipments, defense products industries | 692 | See Unfilled orders. | | | |
| Personnel—See Civilian personnel and Military personnel. | | | | | | Ratio, unfilled orders to shipments, defense products | 691 | See Unfilled orders. | | | |
| Expenditures—See Outlays. | | | | | | Ratio, unfilled orders to shipments, defense products industries | 690 | See Unfilled orders. | | | |
| | | | | | | To Government, aerospace industries | 689 | 12 | 26 | 10/77 | 2/73 |
| Federal purchases of goods and services for national defense | 264 | See Gross national product. | | | | Transfers under military agency sales contracts | 546 | See Balance of payments. | | | |
| Gross national product | | | | | | Unfilled orders, manufacturers' | | | | | |
| Federal purchases of goods and services for national defense | 264 | 5 | 14 | 10/77 | 10/73 | Defense products | 661 | 9 | 22 | 2/77 | 2/73 |
| Gross national product | 200 | 5 | 14 | 10/77 | 10/73 | Defense products industries | 660 | 9 | ... | 7/71 | 2/73 |
| National defense purchases as percent of GNP | 613 | 5 | 14 | 10/77 | 10/73 | From Government, aerospace industries | 664 | 9 | 22 | 10/77 | 2/73 |
| Gross obligations incurred—See Obligations incurred. | | | | | | Ratio to shipments, defense products | 691 | 12 | 26 | 2/77 | 2/73 |
| Gross unpaid obligations outstanding—See Obligations outstanding. | | | | | | Ratio to shipments, defense products industries | 690 | 12 | ... | 11/72 | 2/73 |
| | | | | | | Unpaid obligations outstanding—See Obligations outstanding. | | | | | |

